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GENERAL VIEW
OF THE
AGRICULTURE
OF THE
COUNTY OF NORFOLK;

WITH
OBSERVATIONS ON THE MEANS OF ITS IMPROVEMENT.

DRAWN UP FOR THE CONSIDERATION OF *K. Acad. S. London*
THE BOARD OF AGRICULTURE,
AND INTERNAL IMPROVEMENT.

—
BY NATHANIEL KENT,
OF FULHAM, MIDDLESEX.

WITH ADDITIONAL REMARKS OF SEVERAL RESPECTABLE
GENTLEMEN AND FARMERS.

"Ye generous Britons, venerate the plough."

THOMSON.

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ADVERTISEMENT

FROM THE

Board of Agriculture.

THE great desire that has been very generally expressed, for having the AGRICULTURAL SURVEYS of the KINGDOM re-printed, with the additional communications which have been received since the ORIGINAL REPORTS were circulated, has induced the BOARD of AGRICULTURE, to come to a resolution of re-printing such as may appear on the whole fit for publication; and it will thankfully acknowledge any additional information which may still be communicated: An invitation, of which, it is hoped, many will avail themselves, as there is no circumstance from which any one can derive more real satisfaction, than that of contributing, by every possible means, to promote the improvement of his country.

N. B. Letters to the Board, may be addressed to SIR JOHN SINCLAIR, BART. the President, M. P. London.

London, JUNE, 1795.

P L A N

For Re-printing the

Agricultural Surveys.

By the President of the Board of Agriculture.

A BOARD established for the purpose of making every essential enquiry into the Agricultural State, and the means of promoting the internal improvement of a powerful Empire, will necessarily have it in view, to examine the sources of public prosperity, in regard to various important particulars. Perhaps the following is the most natural order for carrying on such important investigations; namely, to ascertain,

1. The riches to be obtained from the surface of the national territory.
2. The mineral or subterraneous treasures of which the country is possessed.
3. The wealth to be derived from its streams, rivers, canals, inland navigations, coasts, and fisheries. And
4. The

4. The means of promoting the improvement of the people, in regard to their health, industry, and morals, founded on a *statistical* survey, or a minute and careful enquiry into the actual state of every parochial district in the kingdom, and the circumstances of its inhabitants.

Under one or other of these heads, every point of real importance, that can tend to promote the general happiness of a great nation, seems to be included.

Investigations of so extensive and so complicated a nature, must require, it is evident, a considerable space of time before they can be completed. Differing indeed in many respects from each other, it is better, perhaps, that they should be undertaken at different periods, and separately considered. Under that impression, the Board of Agriculture has hitherto directed its attention to the first point only, namely, the cultivation of the surface, and the resources to be derived from it.

That the facts essential for such an investigation, might be collected with more celerity and advantage, a number of intelligent and respectable individuals were appointed, to furnish the Board with accounts of the state of husbandry, and the means of improving the different districts of the kingdom. The returns they sent were printed, and circulated by

by every means the Board of Agriculture could devise, in the districts to which they respectively related; and, in consequence of that circulation, a great mass of additional valuable information has been obtained. For the purpose of communicating that information to the Public in general, but more especially to those counties most interested therein, the Board has resolved to re-print the Survey of each County, as soon as it seemed to be fit for publication; and, among several equally advanced, the counties of Norfolk and Lancaster were pitched upon for the commencement of the proposed publication; it being thought most advisable, to begin with one county on the Eastern, and another on the Western coast of the island. When all these Surveys shall have been thus re-printed, it will be attended with little difficulty to draw up an abstract of the whole, (which will not probably exceed two or three volumes quarto) to be laid before his Majesty, and both Houses of Parliament; and afterwards, a general Report on the present state of the country, and the means of its improvement, may be systematically arranged, according to the various subjects connected with agriculture. Thus every individual in the kingdom may have,

1. An account of the husbandry of his own particular county; or,
2. A general view of the agricultural state of the kingdom at large, according to the counties

counties, or districts, into which it is divided; or,

3. An arranged system of information on agricultural subjects, whether accumulated by the Board since its establishment, or previously known.

And thus information respecting the state of the kingdom, and agricultural knowledge in general, will be attainable with every possible advantage.

In re-printing these Reports, it was judged necessary that they should be drawn up according to one uniform model; and after fully considering the subject, the following form was pitched upon, as one that would include in it all the particulars which it was necessary to notice in an Agricultural Survey. As the other Reports will be re-printed nearly in the same manner, the reader will thus be enabled to find out at once, where any point is treated of, to which he may wish to direct his attention.

Plan of the Re-Printed Reports.



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CHAP. I. Geographical State and Circumstances.

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- 6.—Water.

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CHAP.

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3.—Hay Harvest.

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X. Woods and Plantations.

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XII. Improvements.

SECT. 1.—Draining.

2.—Paring and Burning.

3.—Manuring.

4.—Weeding.

5.—Watering.

СНАР. XIII.

* Where the quantity is considerable, the information respecting the crops commonly cultivated, may be arranged under the following heads:

- | | | | |
|--------------------------|-------------------------|---------------------------|---------------------------------|
| 1. Preparation | { tillage,
manure. } | 6. Culture whilst growing | { hoe,
weeding
feeding. } |
| 2. Sort. | | 7. Harvest. | |
| 3. Steeping. | | 8. Threshing. | |
| 4. Seed (quantity sown). | | 9. Produce. | |
| 5. Time of sowing. | | 10. Manufacture of bread. | |

In general, the same heads will suit the following grains :

Barley.—Oats.—Beans.—Rye.—Pease.—Buck-wheat.

Vetches Application.

Cole-feed . . .	} Feeding, } Seed. }

Turnips . . .	{	Drawn	}
		Fed	}
		Kept on grass .	}
		— in houses	}

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3.—Horses, and their Use in Husbandry, compared to Oxen.

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PERFECTION

PERFECTION in such enquiries is not in the power of any body of men to obtain at once, whatever may be the extent of their views, or the vigour of their exertions. If Lewis XIV. eager to have his kingdom known, and possessed of boundless power to effect it, failed so much in the attempt, that of all the provinces in his kingdom, only one was so described as to secure the approbation of posterity*; it will not be thought strange that a Board,

* See Voltaire's Age of Lewis XIV. vol. ii. p. 127, 128, edit. 1752.

The following extract from that work will explain the circumstance above alluded to.

“ Lewis had no Colbert, nor Louvois, when about the
 “ year 1698, for the instruction of the Duke of Burgundy, he
 “ ordered each of the intendants to draw up a particular de-
 “ scription of his province. By this means, an exact account
 “ of the kingdom might have been obtained, and a just enu-
 “ meration of the inhabitants. It was an useful work, though
 “ all the intendants had not the capacity and attention of
 “ Monsieur de Lamoignon de Baviile. Had what the King
 “ directed been as well executed in regard to every province,
 “ as it was by this magistrate in the account of Languedoc,
 “ the collection would have been one of the most valuable
 “ monuments of the age. Some of them are well done; but
 “ the plan was irregular and imperfect, because all the inten-
 “ dants were not restrained to one and the same. It were to
 “ be wished, that each of them had given, in columns, the
 “ number of inhabitants in each election; the nobles, the ci-
 “ tizens, the labourers, the artisans, the mechanics; the cat-

Board, possessed of means so extremely limited, should find it difficult to reach even that degree of perfection which, perhaps, might have been attainable with more extensive powers. The candid reader cannot expect, in these Reports, more than a certain portion of useful information, so arranged as to render them a basis for further and more detailed enquiries. The attention of the intelligent cultivators of the kingdom, however, will doubtless be excited, and the minds of men in general gradually brought to consider favourably of an undertaking, which will enable all to contribute to the national stores of knowledge, upon topics so truly interesting as those which concern the Agricultural interests of their country—interests which, on just principles, never can be improved, until the present state of the kingdom is fully known, and the means of its future improvement ascertained with minuteness and accuracy.

“ the of every kind; the good, the indifferent, and the bad
 “ lands; all the clergy, regular and secular, their revenues,
 “ those of the towns, and those of the communities,

“ All these heads, in most of their accounts, are confused
 “ and imperfect; and it is frequently necessary to search with
 “ great care and pains to find what is wanted. The design
 “ was excellent, and would have been of the greatest use, had
 “ it been executed with judgment and uniformity.”

P R E F A C E,

BY

MR. KENT.

HAVING come forward a Volunteer, upon the establishment of the Board of Agriculture, and collected and arranged the best information in my power, touching the Husbandry of this County, without any provincial bias, it was freely offered to the Board to be disposed of as it should think most likely to produce any advantage to the Public. The Board very judiciously circulated it in all parts of the County, desiring all Persons, who might be inclined to take the subject under consideration, to make their free Remarks upon it, and to return it with any Additions they might have to offer. In consequence of this, many sensible and pertinent Observations have been made, which the Board has since put into my hands, requesting me to re-print my own Report, and to interweave these Observations

vations with it. I shall with great satisfaction avail myself of the aid those Hints afford me, but as I shall, in several instances, enlarge my own original Report, I conceive it would tend to break the chain of my argument, and render it less intelligible, were I to blend these different opinions with it; at the same time, these Remarks will speak better for themselves standing distinct. I mean, therefore, to publish such as are perfect in themselves, or too long for Notes, in an Appendix at the end of the Report, and such as are in the nature of short detached Observations, I shall subjoin at the end of each Section, taking the liberty to comment upon them with the same freedom that has been taken with me, but not any farther than may be necessary to illustrate the great and important object in question; thus we shall stand in the nature of evidence, and the Public will be the impartial Jury to decide upon the merits of our different ideas. And here I take the liberty to request the Reader to follow the full drift of my argument, through the whole of each Section, before he has recourse to the Notes; for though they will afterwards strengthen and elucidate the subject, they will be apt to create perplexity, if recourse be had

to

to them as often as their marks of reference appear.

As to the arrangement of the matter that will be contained in this re-printed Report, it will not follow in the exact form of the preceding general Plan, as the greatest part of my scheme was digested and settled prior to my being acquainted with it; but I trust that under the following heads, I shall embrace all the material objects which the Board has pointed out.



Section

- I. PRELIMINARY OBSERVATIONS.
- II. Situation, Contents, Divisions, and Population.
- III. Climate and Weather.
- IV. Surface and Soil.
- V. Roads, Navigation, and Rivers.
- VI. Manures and their Application.
- VII. Tenures and their Proportions.
- VIII. Arable Land and Course of Cropping.
- IX. Modes of Culture.
- X. Grass Land, and Hints for its Improvement.
- XI. Average Crops and Scale of Rent.
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- XV. The Commons considered.
- XVI. Woods and Plantations.
- XVII. Live Stock.
- XVIII. Buildings

Section

- XVIII. Buildings and Repairs.
- XIX. Implements of Husbandry.
- XX. The Advantage of Leases.
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- XXV. Rural Economy.
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- XXVII. State of the Poor.
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- XXIX. General Observations.

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- Letter from Sir Mordaunt Martin, Bart. on the Culture of Potatoes.
- Letter from Mr. Overman, on the Breed of Cattle.
- Letter from Lord Petre, on the Fattening of Cattle with Oil, Bran, &c.
- Letter from J. B. Burroughes, Esq. on the Dibbling of Wheat.
- Letter from Mr. Baker, on ditto.
- Remarks by Mr. Wagstaff, on ditto,
- Letter from Mr. Varlo, on ditto.
- Remarks by Dr. Hinton, on the Advantage of Peat, Lime, &c.
- A Hint from Mr. Wagstaff, respecting New Fences.
- Letter from Mr. Kent, on the Advantages of Spanish Chesnut.
- Abstract of Covenants between Mr. Coke and his Tenants.
- Statement of the Expence and Profit of Fattening Scotch Cattle.

Agricultural Survey
OF
N O R F O L K.

Section I.

PRELIMINARY OBSERVATIONS.

THE superior benefits resulting to society from Agriculture, are so conspicuous, that it is impossible they should escape the observation of a speculative mind. Other improvements, carry only local advantage; but those of Agriculture are diffusive of general good to mankind. It is unquestionably the first of all sciences, as it nurses and supports the rest: it is therefore deserving the greatest encouragement from all ranks of men, who are able to promote its improvement, whether by liberal aid, industry, or talents.

talents. As an individual, I feel the utmost satisfaction, in making a free-will offering to the public of my mite of information on the present occasion, and am glad to find that Government has at last sanctioned this important object. By the aid it may receive from this respectable quarter, and from the zeal and perseverance of the active members who are placed at the head of the new establishment, much may be expected; and as professional men from all districts, are called forth, to make their full and free observation upon the husbandry of the parts with which they are most familiar, it is to be presumed, that a great deal of useful information will be brought together, after which a judicious selection will of course be made, highly to the advantage of the public; for as many men will, of course, describe the same object, it will be undoubtedly necessary, for the sake of brevity, to winnow the chaff from the corn, taking what is good from every man, and rejecting the dross.

Thus, all who embark in this business, may have the satisfaction to find, they contribute something, to the welfare of the great object on foot; and though the subject they aim to describe,

scribe, may not be published exactly in their own words, their ideas will at least be blended in the great body of the work.

The first object the Board seems to have in view, is to inform itself, of the present State of Husbandry in every County, that it may give all the encouragement in its power, to such practices, which have a beneficial tendency, and endeavour to discourage and put out of countenance, such as are carried on upon erroneous and obstinate principles.

There is no doubt, but great advantage will be derived from a plan of this sort. In the first place, every soil in the kingdom will be described, and its right use pointed out, which is the first step to good husbandry.

Cattle will, of course, be largely treated of, and the judicious farmer be enabled to distinguish how far he can rationally improve his native stock, and how far mix the breed to advantage with cattle of another district; and, at the same time, avoid the rock which a great number of people at this time split upon, in hastily changing their present stock for another, per-

haps too large, and totally inapposite to the nature of the land.

Buildings will likewise be another consideration of great moment, as it is an object, that greatly affects the profit of estates; therefore, the selection of the best kind of materials, and the adoption of the best plans, combined in comfort and frugality, will be found highly deserving the attention of the landed interest.

Implements of husbandry, will be found deserving the attention of farmers, and in many instances may be changed to advantage.

In short, a thousand useful subjects and experiments will be treated on, so largely, and so satisfactorily, (that nothing fallacious can be allowed to stand, where so many persons, writing upon the same subject, must correct each other) that there will be no occupier of land, but may derive some additional knowledge to what he is now in possession of; for when all the best and worst practices are fairly exhibited, a person must be deficient in common sense, not to adopt the one, and explode the other.

Nothing

Nothing in my opinion, will tend more to excite a general spirit of Improvement, than the Board's publishing a general Abstract of all the best Information that can be collected from the different Reports; contrasting the best with the worst Practices.—A short statement of this kind, drawn up with perspicuity, will be more read, more attended to, and make a deeper impression on a Farmer's mind, than long descriptions from theoretical writers; but this selection should be made by a Committee of six or seven men of sound experience, who reside in different parts of the kingdom; and who, when called together, will be equally free of bias and local prejudice.

In order to facilitate what I here recommend, I will, in the course of my remarks, point out some of the most striking things which may be worth attention in a Norfolk Farmer, from better modes of husbandry in other counties; and, on the other hand, point out, to other parts of England, such things as I conceive the farmers, in this county, excel in.

Section II.

SITUATION--CONTENTS--DIVISIONS AND POPULATION.



NORFOLK is a Maritime County, bounded by the German Ocean on the north and east; by Suffolk, south; and by Cambridgeshire and Lincolnshire, west.—Its greatest length, due east and west, is fifty-nine miles, and its greatest breadth, from north to south, thirty-eight(*a*).—At the ends it is not so broad; but it may be considered, when squared, as containing, as nearly as can be ascertained from the maps hitherto published, about 1,710 square miles, and 1,094,400 statute acres. It is divided into thirty-three hundreds, one city, by much the largest in England, save London and Bristol—Four sea-port towns—Twenty-five other market-towns, and seven hundred and fifty-six parishes.

It is extremely difficult to state, with any degree of accuracy, what are the different proportions of cultivated and uncultivated land, as this could only

only be done by a general survey, but from the best enquiry and observation that I have been able to make, I will hazard the following calculation :

The space on which the towns stand	1500
Public and private roads	16416
Lakes and rivers	2000
Sedgy and swampy ground	1500
Unimproved commons	80000
Woods and plantations	10000
Arable land, computed at two- thirds of the whole county	} 729600
Meadows, parks, and upland pasture	126692
Marsh lands	63346
Warrens and sheep-walks	63346
Total of acres -	1094400

The population of the city of Norwich was ascertained in the year 1693, when it was found to contain 28,881 souls; and again in 1752, when it was found to have increased to 36,169; but the trade was then in high reputation, and the city said to be very healthy; and as the trade has since rather declined, it cannot be supposed the population has much increased since, though it is generally understood, that there are now about 40,000 souls in Norwich (*b*), 10,000 in Lynn, and 16,000 at Yarmouth.

As

As to the smaller towns and villages, I have considered them partly from a general average of houses, and partly in proportion to the number of cultivated acres of land; and though calculations of this kind must not be looked on as accurate, I consider the whole number of people in the county to be about 220,000 (*c*).



NOTES.

(*a*) Two commentators are to be noticed here, Sir Thomas Beevor and the Rev. Mr. Howlett, Vicar of Dunmow, in Essex—The former says “by Templeman’s Survey of the “Globe (a book of great authority) Norfolk is 57 miles in “length and 35 in breadth, containing 1426 square miles.”—If Templeman meant, as I do, the mean length and breadth, the best way, I presume, of ascertaining the content sought for, he must be in an error, for 57, multiplied by 35, will give 1995 miles—The latter says “from a bare inspection of the maps of England, Norfolk is more extensive than Essex, and yet that is estimated at 1,240,000 acres, and I believe that estimate is very near the truth.”—I trust that it will not imply, that my estimate for Norfolk is erroneous, because Mr. Howlett thinks that of Essex is true.—The scale by which a kingdom is laid down cannot be depended upon for the admeasurement of a county.—Suffice it, that I have deduced my calculation, as I have before observed, from the best maps hitherto published, and from twenty-six years acquaintance with the county; and the public, must decide to which statement most credit is due.

(*b*, Sir

(b) Sir Thomas states "that in 1786 the population of the city of Norwich was again ascertained, and the number of inhabitants was 40,051, of which there are persons having settlements in and belonging to other places, 10,851, and that it is thought at this time that 8000 are in the workhouses and hospitals, or maintained elsewhere at the public expence."

(c) Mr. Howlett, who has taken great pains to ascertain this point in several parts of England, for which he is most highly to be commended, is of opinion, that my statement is far short of the real number of people in Norfolk, which "he is almost confident was 270,000 ten years ago." In this remark he may possibly be right, as, perhaps, his rule of computation may have been better than mine; suffice it, that I have given the best account which I could deduce from enquiry, checked by observation in parts where I was most acquainted. But it is a very difficult question for an individual to ascertain with precision, though I think it an enquiry of the very first importance, and am astonished that the government of this country has never made a point of obtaining it—Since it is obvious, that the greatest benefit would be derived from it, not only in all commercial calculations upon allowable exports and profitable imports, but in reserving sufficiency of corn, in due time, when there is likely to be any accidental deficiency; not to mention various other instances of national advantage, which might be derived from a true state of population; it is also the best foundation the Board of Agriculture can have to regulate the various plans of improvement it has in view.

Section III.

CLIMATE AND WEATHER.

THE extremities of the county, lie from 52 deg. 24 m. to 53 deg. 5 m. north latitude, and from about 0 deg. 6 m. to 1 degree 52 minutes of eastern longitude; and being open to the German Ocean, north and east, and lying on the marshy parts of Cambridgeshire and Lincolnshire on the west—the air is on that account extremely cold in winter, and during the early parts of the spring, vegetation is generally kept back by sharp easterly winds, and a vast quantity of fleet—cattle on this account, often suffer severely as well from this inclemency of weather, as from want of a proper supply of nourishment in the spring; for when the turnips happen to perish early, from the frequent change of frost and thaw, the farmer finds himself obliged to dispose of his flock to a very great disadvantage, which he should endeavour to guard against, by keeping a good stock of hay in store, and by sowing a sufficient quantity of his land, with rye or winter vetches the preceding autumn. In other respects, I do not think the produce of the land the less for this severity, on

the contrary, it may be, and I believe is of advantage to it; for nothing fertilizes more than frost and snow, and as all the land designed for the next year's crop of turnips is exposed to the weather the whole of the winter, it being the custom to plough up the stubble designed for turnips sooner than in many other counties; it may perhaps be one reason of the greater certainty in the culture of this inestimable root.—In summer, the showers are rather more frequent than in the midland counties—storms and tempests, such as thunder and lightning, are frequent, and as violent as in other parts of the kingdom, but seldom last so long as in hilly districts, but in general pass in a quick direction from the south and west, towards the sea, which strongly attracts them; and I have remarked that it is but seldom that these storms come from the sea.

Section IV.

SURFACE AND SOIL.



THE surface, except in some few parts, near Norwich, and upon the coast near Sherringham and Cromer, is mostly a dead flat; consequently, the aspect is in general uniform and uninteresting, and, as the open and worst parts lie to the south-west, where flangers enter the county, it must offer to them a very dreary and barren appearance (*a*), but all the north, north-east and south-east parts are inclosed; and being as well, if not better, cultivated than any other part of the kingdom, and certainly much richer in timber than any other maritime county, exhibit at least many cheerful and pleasant views, but none that are very extensive.

The greatest part of the arable land is sandy. The prime parts of the county lie north and north-east of Norwich; comprising the hundreds of East and West Flegg, South Walsham, Blofield, Happing, Tunstead, and the greatest part of North and South Erpingham; all which may be denominated

minated a true sandy loam, equal in value to the best parts of the Austrian Netherlands, to which it is similar. It is highly fruitful, and so temperate and pleasant to work, that it is rarely injured by wet or drought, so that the occupier is seldom put out of his rotation of cropping. It is very unlucky for the credit of Norfolk, that this part of the county is, by its distant situation, less known to strangers than any other part.

The district south and south-east of Norwich, consisting of the hundreds of Loddon, Clavering (*b*), Henstead, Earsham, Difs, Depwade, and Humilyard, as well as some parts of Fourhoe and Mitford, though chiefly sand, have an occasional mixture of clay, and are in many parts wet and full of springs; but yet these parts are fruitful, though to a less degree than the former; they are likewise less pleasant and more expensive to work.

The largest portion of the county lies west and north-west of Norwich; comprising the hundreds of Taverham, Eynsford, Holt, North Greenhoe, Gallow, Launditch, Brothercrofts, Smithdon, Freebridge, and Clackclose. There is some very good land in different parts of this district; but, upon the whole, it is a very inferior country to the two preceding districts. It runs, in general, light, and its best dependence is upon the fold. This is
what

what is called West Norfolk, and is the part which Mr. Young described in his first Norfolk Tour; and on account of the three great houses of Holkham, Houghton, and Rainham, is the part which strangers are most acquainted with. It is here that great farms are to be found, with a thin population (*c*); and if it were not for the occasional assistance derived from the eastern part of the county, there would often be a want of hands in the harvest, and other busy seasons (*d*).

The hundreds of Shropham, Guiltcross, Weyland, South Greenhoe, and Grimshoe, lying south-west of Norwich, run upon a still lighter sand; so light, that in the last mentioned hundred, the sand very often, in a high wind, drifts from one parish to another. This is the part where the great rabbit warrens are found, which upon this soil pay better than any other thing the land could be appropriated to.

Marshland may be considered as a hundred by itself. The soil is a rich ooze, evidently a deposit from the sea: the north part is highly productive; but the south part very much injured for want of better drainage, which, it is presumed, will now be effected, as there was a bill passed in the last session of parliament for that purpose.

NOTES.

NOTES.

(a) Sir Thomas Beevor observes, "that many strangers enter the county by way of Colchester, which brings them "through a fine rich country;" this I readily admit, and that there is no road of equal length with that, from London to Norwich, where there is less uncultivated land or better husbandry; but the number of travellers who come this way are very few in proportion to those who come by Newmarket and Thetford.

(b) Sir Thomas says, "the hundreds of Henstead, Forehoe, Mitford, Difs, and Depwade, particularly the two last, "consist almost wholly of stiff wet land, many villages having "some land which may be called a mere clay."—I have admitted that part of them are wet and full of springs, and that they have a mixture of clay. In general descriptions of this sort, every thing is comparative. If we contrast this district with the rest of the county, which is confessedly sandy, Sir Thomas may be right, but compared with Herefordshire, the Vale of Evesham, and other similar districts, where absolute clays abound, I still presume to think I may be right.

(c) Mr. James and Mr. Wagstaff have in this place taken notice of the bad tendency of large farms, but as I intend to handle that subject in a distinct section, I shall hereafter avail myself of their judicious remarks upon that great question.

Section V.

ROADS, NAVIGATION, & RIVERS.



THE roads in this county, afford the farmer a very great advantage over many other parts of England, being free from sloughs, in all parts (except the marshes), and though the soil is sandy, it resists the pressure of the wheels at a small distance from the surface, and the ruts are kept shallow at a very little expence; and after the longest and hardest rain, become dry and pleasant in a few days, which is not only an agreeable circumstance to a traveller, but a great comfort to cattle in their drift; so that I may venture to say, that the roads are better, in their natural state, than in almost any other county; so good, that no turnpike was thought of in Norfolk, till they became common in most other parts; so good, that Charles II. when he honoured the Earl of Yarmouth with a visit at Oxnead, is said to have observed (*a*), that Norfolk ought to be cut out in slips, to make roads for the rest of the kingdom; by which he undoubtedly meant to compliment the county upon the
goodness

goodness of its roads, above other counties. In short, the roads, though often called bad by Norfolk men, are so good, comparatively with those in other counties, that where the common statute duty is fairly done, a traveller may cross the country in any direction, in a post-chaise, without danger; and where the duty is not done, may trot his horse from one parish to another, at the rate of six miles an hour.

The sea navigation is undoubtedly another great advantage to the agriculture of this county, as it not only enables the farmer to avail himself of the level of distant markets, but in many instances enables him to procure an additional quantity of valuable manure. The county is bounded by the sea from Yarmouth to the mouth of the Nene, being eighty miles, and there are four considerable sea-ports, independent of several smaller places, of landing and shipping of goods: but as I shall have occasion to say a word or two, respecting trade, under the head of commerce, I shall wave that subject in this place.

The principal rivers are the Ouzo, the Waveney, the Yare, the Wensum, and the Bure. The Great Ouzo is navigable from Lynn, twenty-four miles through the county, and then communicates with seven of the Midland counties; the Little Ouzo branches out of the Great Ouzo, and is navigable by

Brandon to Thetford (*a*); the Waveney from Yarmouth by Beccles to Bungay; the Yare and Wensum from Yarmouth to the populous city of Norwich; and the Bure from Yarmouth to Aylsham: besides which, there are several small cuts to private estates.

These inland navigations are of great use to individuals, and to society at large—they give aid to agriculture, and spirit to trade; and tend to lessen the number of horses, which are the greatest devourers of the produce of the earth: I could therefore wish to see them improved upon, and extended as far as possible, and it is a consideration worth the attention of the gentlemen of the county.

The most obvious improvement of this sort, which presents itself, is that of extending the navigation of the Wensum from Norwich to Fakenham, which I believe is not only practicable, but would be found to answer the expence extremely well, as it would pass through a corn country the whole way, from which the corn is now conveyed a vast way by land carriage: I am told there were formerly some steps taken towards effecting this desirable object. I am at a loss to know why it failed of success, but should be glad to see it revived without loss of time.

There is another great object of inland navigation, which perhaps deserves still greater attention.

For

For this hint I am indebted to Mr. Colhoun, whose letter upon the subject to Sir John Sinclair, is clear, sensible, and so much to the purpose, that I shall take the liberty of making a large extract from it, with which I shall conclude this section.—“ A
“ plan was offered to parliament about five years
“ since, (but was rejected) by which it was pro-
“ posed to make a canal from the Brandon river,
“ by Newmarket and Saffron Walden, to London.
“ It would have added more considerable advantage
“ to the county of Norfolk, than arises from any
“ of the river navigations before enumerated. The
“ ports of Lynn and London would have been
“ united, by an easy access to each other in the
“ course of a few days, to the mutual benefit of
“ both; and in time of war, the east country trade
“ would have found many inducements to make the
“ port of Lynn, in order to pass from thence to
“ London, thereby saving some risk of the sea,
“ and danger from the enemy. The exuberant
“ produce of the county, would have had a cheap
“ and expeditious transfer to the metropolis, where
“ these supplies are so essential to the support of its
“ inhabitants, that without them they cannot exist.
“ It appears by Mr. Kent’s report, that the export
“ of corn, grain, and flour, from Norfolk, is about
“ 600,000 quarters annually, the greatest part goes
“ to the London market. It is easier to conceive
“ than lay down a rule, whereby to calculate all the
“ benefit a country, so rich in produce, would derive

“from such a communication with distant markets.
“The estimate of saving in the price of land car-
“riage alone, is not exaggerated if taken at 200,000l.
“a year, besides the saving to arise in the various
“articles of merchandize, now carried in wagons
“to and from London. To demonstrate this, it
“will be enough to state, that the price of land
“carriage from Thetford (situate on the Brandon
“river) to London, or back, is 4l. a ton; and by
“the proposed canal, the calculation was under
“20s.—a saving of near eighty per cent. The like
“saving would have been made on all the articles
“of trade, extending to the city of Norwich, and
“every other place north of Thetford.

“If this business is again brought forward, I
“hope and trust there will be no exertions of in-
“fluence, to obstruct a canal that must be so advan-
“tageous to the public, and, at the same time, en-
“courage the agriculture of a county, that has al-
“ready distinguished itself, beyond any other in the
“kingdom.”

Mr. Colhoun adds, “that white bricks, similar
“to those of Norfolk House, are made near the
“proposed canal, and would be delivered at one-
“half the present price of that article in London.”

NOTES.

NOTES.

(a) Sir Thomas Beever says, "might not this mean, that the soil was so dry and barren, as to be unfit for any other use than that of roads? In this sense it has been by writers always understood." If the surface had been a hot hungry gravel, the King's meaning might have been as Sir Thomas seems inclined to construe it, but as it is chiefly a sand, it is not reasonable to suppose he would have considered that as the best material for road making. Besides, though the cultivation and produce of Norfolk was not then equal to what it now is, there is a strong presumption to suppose, that it was at least upon an equal footing with the rest of the kingdom; indeed, I am very much inclined to think it was, even then, upon a superior footing, on account of its proximity to Flanders, from whence our earliest lessons upon good husbandry were brought.

(b) Mr. Fox makes a very pertinent observation in this place, which it is incumbent on me to insert at length. He says, "the distance from Thetford to Bungay being but thirty-two miles, it seems, that a canal from one place to the other, would essentially benefit the whole county, as the streams of the Ouze and the Waveney flow towards each other, so as to lessen the distance above stated some miles. It is submitted that this navigation might be easily effected; commerce would then circulate round the whole county, and consequently throw its treasures into the heart of this and the neighbouring counties." I am quite of Mr. Fox's opinion; think this a very easy thing to accomplish, as the sources of the two rivers are only a few miles apart, and it would be as beneficial to the north side of Suffolk, as to the south side of Norfolk, from whence the corn in many places is now carried to Ipswich market, full twenty miles by land carriage.

Section VI.

MANURES AND THEIR APPLICATION.

MANURING land is in all places a necessary part of husbandry—rich land will not yield a long succession of crops without help—and poor land requires it in the very outset of its culture—consequently the easier this article can be obtained—the greater is the advantage which a country derives from it.

Marl is in general not only one of the best species of manure, but one of the most lasting; and the marl of this county is a treasure to it, beyond what many others counties possess; for though there are large stratum of marl in most other counties, I have never seen any of so good a quality, or so easy to be got at, as it is to be found in most parts of this county, and in many places very near the surface. Mr. Marshall, in his *Rural Economy of Norfolk*, a work of great merit, describes two sorts of marl, and enters into a chemical investigation of their natures. Suffice it, on the present occasion,

to

to say, that it is of inestimable value. Twelve cart loads (*a*) to an acre of the white, or rather yellow marl, will, the second year after it is laid on, change the nature of land; most of the exhausting weeds which impoverish the soil, and choak the corn in its infancy, are effectually destroyed (*b*), as it has a great tendency to keep land clean; it braces the pores of the earth closer together, and increases its fertility to a surprising degree; its benefit, though not to the effect it produces at first, is felt for thirty years, when a second marling, of about half the original quantity, may with propriety be used; but it has been found by experience, that it does best the second time compounded with muck or maiden earth. I should add, that as it is of a ponderous nature, it suits best when spread on lay land, by which means it mixes sooner, and better, with the native soil.

The other species of marl is, more properly speaking, a clay, impregnated with marly particles, and though good in quality, is certainly much inferior to the other, as it requires more than double the quantity to carry the same improvement. But I am inclined to think, this last is more durable than the former, not, however, from its quality, but from its mixing better with the earth, and not escaping downwards so soon.

There are likewise, in some parts of the county, deposits of a brown and bluish clay, which make
great

great improvement upon the light sands, but those do not lie in sub-stratums, like the marl in most parts of the county, but are only found in local spots, and sometimes discovered in the sea-banks.

Those farmers who live near the sea, have lately began to make use of the small sand from the beach, which they lay in the bottom of their yards, and when their muck, which is made upon it, is sufficiently rotten, turn up the whole and mix it together; but the more general practice is, to lay it a foot deep in the stables, during the summer, and to feed their horses with green vetches, in the stables, the dung of which, being afterwards mixed up with the sand, makes a most excellent manure, as well for grass, as arable land.

These are the chief natural advantages, which are possessed by this county.

River weeds, (an excellent manure for turnips) foot, malt dust, and many other similar articles, it has in common with other parts of England, with which it is likewise upon an equal footing, respecting the ordinary proportion of vegetable and animal manure, arising from their crops and stock.— But a more general advantage might be obtained, than what is now the practice, by imitating the farmers of Essex, in turning up the borders of their corn-fields, and the banks of maiden earth in the roads,

roads, and mixing them with their common yard muck, which would multiply their quantity of manure exceedingly, and do no manner of injury to the fields or roads; but by lowering the ground at the sides of the fences, (where nothing of profit grows) help to let the surface water into the ditches the easier.

There is another source, which I here offer more particularly to gentlemen who are in possession of parks, plantations, and lands in hand, and that is, to cause a permanent fold, during the winter months, to be pitched, in some sheltered spot, near their woods, and to pen their store flock in it, giving the sheep the quantity of hay they are accustomed to have, in racks, in the fold, and littering it every night with fresh leaves of trees, with rushes, moss, or any other similar rubbish that can be collected; this turned up together, in the month of April, and mixed with about one-sixth part of lime, rubble from old walls, or any sort of ashes, will make as good a sort of manure as can be laid on turnips—and the quantity will be very considerable: suffice it, that on one of His Majesty's farms at Windsor, I made, in one winter, six hundred cart loads from six hundred sheep. Every gentleman, however, who tries this, must set out with a determination not to be defeated by the prejudice or obstinacy of their bailiffs and shepherds, who will endeavour to persuade them out of it, by suggesting,

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that it will not answer the expence, and that it will injure the sheep, which last will be an assertion without the least foundation in truth.

I cannot quit this subject without taking notice of a very important hint, given by Dr. Hinton, of Northwold, near Stoke, upon the subject of peat and lime, which he recommends to be used as manures. His letter upon this, and some other subjects, is too valuable to be suppressed, I shall therefore take the liberty to publish it at length, in the Appendix, and have only to add, by way of strengthening his argument, that I am of opinion no manure whatever can be more suitable on clover, laid on early in the spring, which, in general, not only adds greatly to the crop of hay when mowed, but insures a good crop of wheat in succession—it is likewise peculiarly good upon saint-foin, and, I should apprehend, well adapted for turnips: as to lime, I am of opinion, that it is always best to compound it with some other substance, and with maiden earth in preference to any other.

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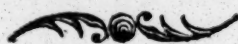
NOTES.

(a) Dr. Temple says, "twelve loads is too small a quantity, I should apprehend; an hundred loads, with ten or twelve of muck, would be much better, if the soil is of a light sandy texture, and if it be clay, then it requires four or five times the quantity." I do not say, that twelve loads are of so much value as more would be, but state it as a fact, that twelve loads have the effect I describe, which the Doctor cannot deny. It must have been in Staffordshire, or Cheshire, where the Doctor has seen this vast quantity laid on, where I believe it to be the custom; but if twelve loads of marl will do as much here, as an hundred there, it proves the superior quality of the Norfolk marl, and makes for my argument, that it is a peculiar treasure to this county, which was all that I presumed to advance: however, I will venture to assert, that the quantity the Doctor recommends, would entirely ruin the Norfolk soil.

(b) Mr. Strachey, Member for Bishop's Castle, says, "this being a fact, perhaps some philosophical account might be inserted, to shew, why weeds must be destroyed by marl, though it causes other plants to vegetate and flourish." I hope this remark, which is a very pertinent one on the occasion, will excite the attention of some person capable of answering the question.

Section VII.

TENURES AND THEIR PROPORTIONS.



IT is almost impossible to give the different proportions of each tenure, in so extensive a county as Norfolk; I must therefore be allowed to take it partly upon conjecture, and partly upon a comparative examination of the particular districts with which I am most acquainted; from which, I shall make the following deductions:—

The copyhold is of two sorts, the one subject to, what is called here, an arbitrary fine, that is, a fine at the will of the lord, who, upon such estates, generally takes near two years value on descent, and a year and a half on alienation:—this copyhold is considered in value, about five years short of freehold. The other copyhold, is only subject to a fine certain, so that a lord of a manor can seldom take more than four shillings an acre, and sometimes only sixpence:—this is nearly of equal value to freehold.

The

The money rents are, in most instances, easy and light, but a corn rent is sometimes reserved, which comes heavy.

Heriots, generally speaking, are not known in this county, which is a happy circumstance, as they are, unquestionably, the most cruel badges that remain of the ancient feudal system.

There is some leasehold, for terms of years, under the bishop and dean and chapter of Norwich, and corporate bodies; some little under other ecclesiastical and collegiate bodies, not resident in the county; but very little on lives, and that little only under the church or colleges.

The practice which lay-lords have of leasing their estates upon lives, in the western counties, is in no instance, that I know of, followed in this county; though it is to be much wished, that it was the custom with respect to cottages, as it would be the best means of making them more comfortable than they are.

Considering the whole of the county, perhaps I shall not be much wide of truth, if I state the freehold lands to be three-fifths; the church, collegiate, and corporate estates, at one other fifth; and the remaining fifth copyhold, under lay-lords.

With

With respect to observation upon the effect of these different tenures, I shall; perhaps, appear unpopular, in the eyes of those whose doctrine it is to recommend throwing large tracts of land into a few hands, if I presume to say, that I think, since the slavery of the ancient feudal system has been abolished, and the courts of law have discouraged excessive fines and immoderate heriots, most of these subordinate tenures have their advantage in society; by keeping up a sort of barrier against the monopoly of land, they tend to keep estates distinct, and preserve some lots of land, to which small capitals and industry are most applicable. This is undoubtedly a great argument in favor of collegiate and corporate tenures, for as these bodies have at most only a life interest in the estates, a life no sooner drops, by which the estates are held, than they are ready to renew with the lessee by adding another, and in general upon fair conditions.

This is not so, under a lay-lord, whose object is to form a great freehold estate, by annihilating these smaller objects.—It is, however, to be wished, that the stewards, who hold the courts in this county, could be taught a little moderation in setting their fees; which are higher in general than in any other county I am acquainted with.—It might also be further urged in support of these tenures, that a copyholder or lessee, on lives, having his own life, and perhaps that of a wife and child in his
estate

estate, is naturally encouraged to make more solid improvements upon his land, than where he is only tenant at will, or upon a short term of years.—He will also be better enabled, in the first instance, to marry, and much encouraged to do it, because he has a more certain prospect of supporting a family; for, in case of his own death, his wife or child would not be deprived of the possession.—Those who deny the force of this argument must, I think, wilfully shut their senses against reason and conviction.

Another fair argument in favour of copyhold is, the greater certainty of its title, and the cheapness of its conveyance compared to that of freehold, which is no trifling consideration.

Section VIII.

ARABLE LAND, AND COURSE OF CROPPING.



IN my general estimation of the quantity of arable land, I have supposed the whole to be about two-thirds of the county, or 729,600 acres, of which, perhaps, about three parts out of the four may be inclosed; the other fourth part in common fields.

The landlord generally wishes to fix the management and course of cropping under a six-course shift, viz. wheat the first year—barley or oats the second, without clover—turnips the third—barley or oats, with clover, the fourth—the clover mowed for hay the fifth—and the sixth grazed till Midsummer, and then broken up for wheat in succession.

But the occupier will often endeavour to contract it to a five-course shift, by sowing his wheat upon clover of one year's lay, and in some of the best parts,

parts, as in the Flegg, Tunstead, and Blofield hundreds, some tenants carry on only a four-course shift: thus, wheat, turnips, barley, and clover. This last, is similar to the practice of great part of Flanders, where the invariable method is, to carry an alternate crop for man and beast, but as land, though ever so good, will grow tired of a too frequent repetition of turnips and clover (*a*), some inconvenience is occasionally sustained; to remedy which, they will do well to change the former of these, now and then, for a vetch crop, and the latter for trefoil or lucern.—No course of husbandry can be more profitable than this, where the soil will allow it; and there are many parts of this county where it may be carried on without doing any injury to the land. I consider the five-course shift to be more unfair than the four; because, in this case, there are three crops of corn, to two crops for the animal. This mode of cropping would be better, if the barley crop, after wheat, was sometimes changed for buck wheat, or potatoes, which would neither be an unprofitable or exhausting crop; and thus a little varied, the practice of a five-course cropping might be allowed, in the parts where the soil is good in quality; or where any extra-quantity of manure can be procured, which is sometimes the case in the vicinity of towns, or near sea or river navigations, or where a gentleman occupies a park with a farm, or a farmer a large portion of down; but in the great western parts of the county,

the course of six shifts ought to be strictly adhered to; and there is something very rational in this six-course husbandry upon a light soil, for though the exhausting and fertilizing crops, do not follow alternately, as in the four-course shift, yet there is an equal number of each observed in the rotation. I think, however, in the very light parts of the county, that a seven-course shift would be an improvement, but I do not mean by letting the land remain three years laid, as some have recommended, because the Norfolk land does not yield much profit from grass seeds after the first year: but I would rather recommend the following course:—wheat, vetches, barley, buck, turnips, barley, clover (*b*); this would keep the turnips and clover crops at such a distance, that there would be no fear of their success; and, as the buck might be considered as a neutral crop, the alternate advantage would not, in fact, be lost in its good effect. I believe too, that by means of the vetches, which might be fed off the whole summer, more stock would be kept on very light land, than from the present six-course shift; and where a flock is kept, it never can be employed so well, as in penning upon this sort of light land, as soon as the wheat or rye be sown, especially if the sowing be upon one ploughing; in such case, it is best to begin rather early, and sow by degrees, as many ridges each time, as the breadth of the fold will cover.

NOTES.

NOTES.

(a) Sir Thomas Beevor remarks in this place, that the complaint I here allude to, is not known in the part of Norfolk where he resides, which I am glad to hear ; but, I am sorry to say, that in all parts where I am most familiar, it is otherwise. Sir Thomas's observation is as follows:—"Such complaint respecting turnips is perfectly new, to the writer of these remarks, around whom, the farmers in the hundreds of Humilyard, Henstead, and Depwade, commonly using the four-course shift of an alternate crop for man and beast, have felt no such mischief. This mode of husbandry, therefore, cannot be too strongly recommended, as it will not only keep the land clean from weeds, enable the farmer to keep a larger stock of cattle, (from which he raises his manure, thereby ensuring himself a greater produce of corn,) but, it is also advantageous, by dividing the work upon the farms into such portions, as require to be attended to, at different periods of the year, whereby the business is carried on with less hurry, as well as with fewer horses and men."

(b) Mr. Baillie observes, "In this rotation, there is nothing to keep stock upon in summer, especially sheep." What better feed can sheep have than vetches? which would be on one-seventh part of the farm, and might be eaten off the whole of the summer, besides the feed of the clover, after mowing it for hay.

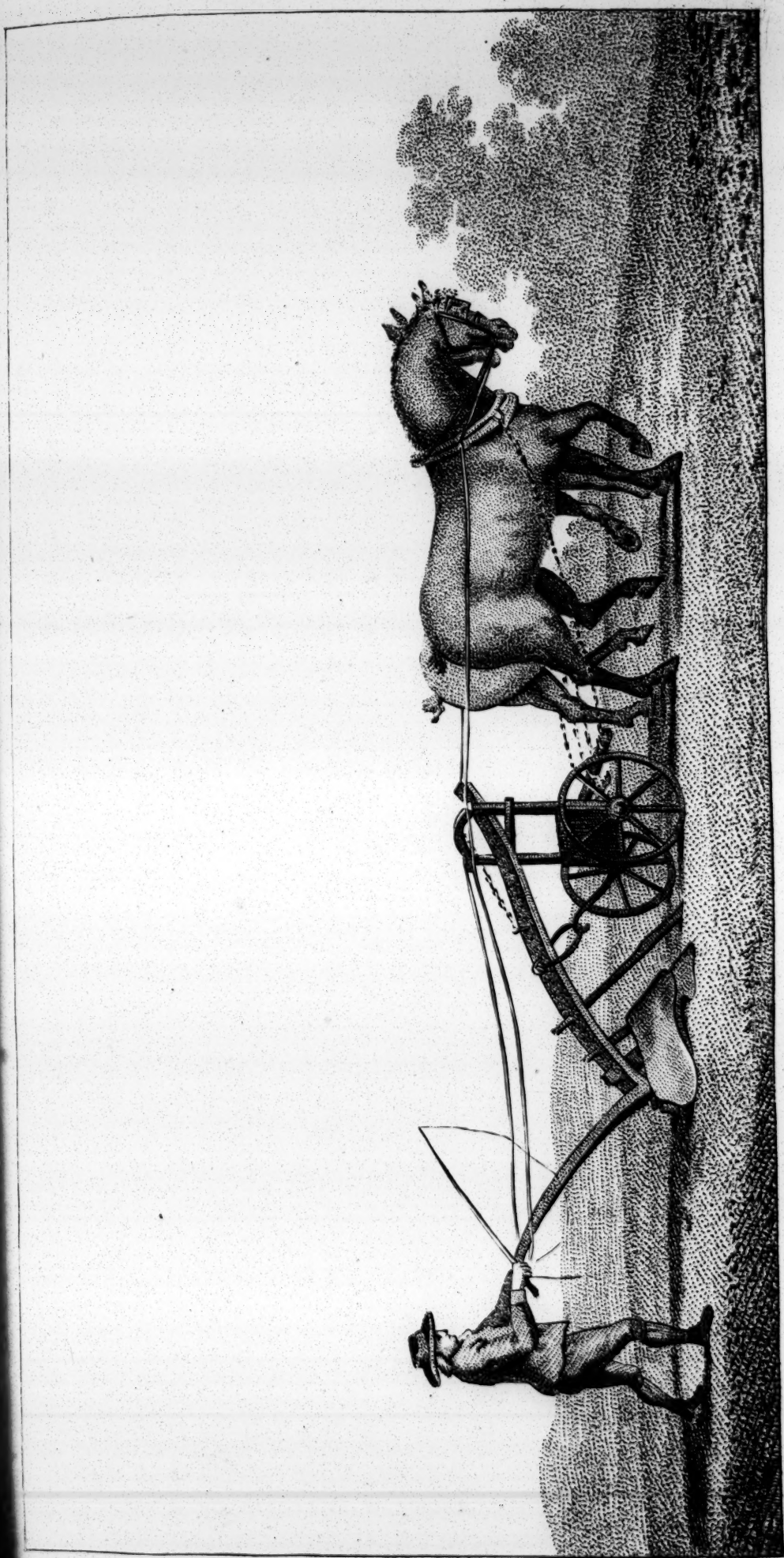
Section IX.

MODES OF CULTURE.



PLOUGHING is certainly done with much greater ease in this county than any other, and much cheaper, as it does not stand the farmer in above 4s. an acre for each tilth. There is no instance of more than two horses being put to a plough: the same person who holds the plough drives the horses also with reins.  See the descriptive sketch of it.

The horses are short and compact, but active and hardy, and seldom exceed fifteen hands. Instead of working them seven hours in winter and eight in summer, as they do in most other counties, without drawing their bits, they are worked eight hours in winter and ten in summer, by two journies as they are termed, which enable them to do considerably more than they would by one journey, as it is evident that a horse would go two twelve-mile stages a-day upon the road, with as much ease, for a constancy, as he would twenty miles at one stage; besides, the heat in summer is more avoided by this means. The common day's work



THE NORFOLK PLOUGH AT WORK.



work for two horses is a statute acre, and, in times of seeding, it is very common to plough an acre and an half.

One man looks after four horses and drives two of them; the other two are driven by a day labourer, who does little jobs about the yard, at the interval, while his horses rest, and in the evening. This mode is worth imitation in all other light parts of England.

As ploughing is done here with so much ease, it is an encouragement to the farmer to give it the more tilths, which, in some measure accounts for the land being so clean; but I apprehend there is another reason, which is, the shallow ploughing observed in this county, compared with many other parts of England. Land is undoubtedly kept cleaner (*a*) by shallow than deep ploughing, and, in light land, the moisture is more preserved by having a pan at the bottom; and there is likewise a much less body of earth to manure and keep in heart. The great secret with ploughed land seems to be in keeping it so clean that nothing shall grow but what is sown upon it; and to keep the surface in a pulverized state, so as to be open and mellow to receive benefit from the influence of the atmosphere,

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In treating of the process in seeding, I shall begin with wheat. This is partly dibbled and partly sown broad-cast: the former is not in so high estimation as it was some years since; but I am of opinion, that when wheat is planted upon clover of only one year's lay, it is the best practice, especially if the dibblers are well looked after, for in this case it will admit of a saving of a bushel of corn to an acre. This saving is an important advantage, as a bushel of wheat is enough to support a man two months, as the average consumption is six bushels a-year to every human mouth (*b*); and if we value the bushel of wheat which is saved, at six shillings, the farmer is only four and sixpence out of pocket, as he can have it done very well for half-a-guinea an acre, and the corn is generally better bodied, and somewhat heavier. For better information upon this commendable practice, I beg leave to refer my readers to the letters of John Burkin Burroughes, Esq. Mr. Wagstaff, Mr. Baker, and Mr. Varlo, in the Appendix, where the method is fully explained; and I hope other counties will not fail in adopting it.

When wheat is sown upon one year's lay, it never has but one ploughing; and when it is sown upon a second year's lay, it seldom has but two. The old practice was, to break up the second year's lay soon after the spring grass was eaten off; but

but now it is seldom touched till after Lammas, and then the best way is just to pare up part of the sward by a sort of half ploughing cross the ridges, just curling the ploughed part over the unbroken part, in an inverted state, and, when the turf is deadened, to cross-harrow it; and at the wheat-feeding to plough it up, in the straight way of the ridges, to its full and proper depth. The turf by this means falls to the bottom, and operates as an assistant manure. I have nothing to recommend in addition to this practice, but that the farmer should take care not to be too late; as it has been remarked, that, as near the time as possible that nature sheds any particular seed, it always grows with more certainty (*c*), and therefore less seed is required, when sown early, than when sown late: about Michaelmas is the height of the season here; it never should be delayed above a fortnight after.

The barley is, at all times, put into the ground in excellent condition. When it follows wheat, the stubble generally has turnips thrown upon it till Christmas, when it is scale ploughed in two furrow ridges; and afterwards has four earths.

But the great piece of husbandry in which Norfolk excels, is in the management of turnips, from which it derives an inestimable advantage. This important crop is the great source of abundance to the country, and has been gradually rising to perfection

fection in its cultivation, for upwards of seventy years. Not only this county, but many other parts of England, are indebted to the Townshend family, for the original introduction of this root into this country. Before that time, turnips were only cultivated in gardens and small spots, and hoed by gardeners; but in the reign of George I. the then Lord Viscount Townshend, grandfather of the present noble Marquis, attended the King to Hanover, in the quality of Secretary of State, and observing the advantage of this valuable root, as there cultivated at that time, and the fertility it produced, brought the seed and practice into England, and recommended it strongly to his own tenants, who occupied a similar soil to that of Hanover. The experiment succeeded, and by degrees, it gradually spread over this county, and, in the course of time, to other parts of England, though their cultivation is by no means so general as it continues here. A good acre of turnips in Norfolk will produce between thirty and forty cart loads, as heavy as three horses can draw; and an acre will fat a Scotch bullock(*d*), from forty to fifty stone, or eight sheep.—But the advantage of this crop does not end here, for it generally leaves the land so clean, and in such fine condition, that it almost insures a good crop of barley and a kind plant of clover; and the clover is a most excellent preparative for wheat, so that in the subsequent advantages, the value of the turnip can hardly be estimated.

I wish

I wish I could close this short history of turnips, without lamenting, that the ground does not relish them so well as formerly, so that great care is necessary in raising them, and more seed is required; and after all, it is a teasing and precarious crop, and admits of no certain rules to ensure absolute success; though some cautions may be worth stating in this place. The first ploughing should not be later than Christmas, and should be to its full depth, unless the land is foul, in which case it should be ploughed very shallow the first time, in two furrow ridges, and the second time to the full depth; but it should never be ploughed in wet weather. After the first fallow has received the benefit of the frost and snow, it should be harrowed down in March. The next ploughing should be as soon as the barley sowing is over, and it should have five earths in all; the last ploughing but one, the dung is ploughed in very shallow, and rolled down; and the last should be about a fortnight after, not later, as the muck will about that time begin to ferment. About twelve loads to an acre is a proper dressing. There is, perhaps, no part of husbandry more deserving of imitation by the rest of England than this (*e*). Some persons use rape-cake for turnip manure; and Mr. Styleman, of Snettisham, a gentleman of considerable fortune, who farms part of his estate upon a large scale, and is trying many ingenious experiments, uses it in a pulverized state, to which he reduces it by means

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of

of two mills, worked by two women, each mill being formed of two cylinders, revolving towards each other. The first breaks the cake into pieces of the size of a walnut, by the operation of coggèd cylinders; the second is constructed of plain cast-iron cylinders, similar to those used for grinding clay to make bricks. Thus reduced to powder, he puts it into the very drills, where he had just before deposited the turnip seed, by means of Cook's machine, which requires no other contrivance or alteration, than substituting different cups and funnels. The quantity of cake used is a quarter of a ton per acre, which has never exceeded 1l. 5s. in its price. He assured me, that this method had never failed to insure him a good crop, and that it does equally well for wheat.

River weeds and sedge, have lately been used to very great effect, for turnips, by Mr. Coke, and Mr. Branthwaite, of Taverham, who assure me, that no manure whatever answers better. They are strewed on the ground, in their wet state, as soon as they are taken out of the water; if the land be of a dry nature, there is no fear of any aquatic seeds taking root in it; but if the land be of a cold or wet nature, abounding in springs, I should think this manure ought to be used with great caution.

Having

Having stated, that turnips came into this country from Hanover, one would naturally expect, that they were managed to great perfection there, at this time; but I doubt this is not the case, for I had this summer the honour to be introduced to a very intelligent Hanoverian nobleman, at Windsor, Count Hardenberg, who was very inquisitive into the state of Agriculture in England, and upon my conversing with him about turnips, I found that they did not know the use of them there, at this time so well as we do, which is a matter of surprise, that an article of such great benefit should ever decline in repute; I doubt it must have arisen from the ground growing tired of them; for which reason, I recommend our English farmer to break the succession of the crops, now and then, by substituting vetches, or potatoes, in lieu of them, which may be easily done without interruption to the succession of his corn crops; and by this means, I am of opinion, this most valuable root may be permanently established in our system of Agriculture.

Hoeing is another essential part of the culture, which is invariably done twice, in a masterly manner, at the expence of 6s. an acre; and I have never seen it done so well in any other part, except in Suffolk and Essex.

Many things have been suggested, to guard against the attack of the fly, but there is no dependence

dence to be placed on any of them (*f*), the only precaution consists, in ploughing the land till it is very fine, and filling it full of muck. The turnip has also another powerful enemy, which is the black canker. Some people draw a rope over the ridges, two persons holding the opposite ends; this will brush them off, and sometimes save a few acres; but those who can breed ducks enow, may save a greater proportion, as they devour them very fast. There is also another remedy, which, I am informed from the best authority, is practised in some parts of Yorkshire; viz. gathering the insect by hand; which is done from 5s. to 8s. an acre. Women and children being employed in this useful business at 6d. a day, the women; and the children, at 3d. and 4d. each, according to their ages.

Having thus described the culture of turnips, it may not be amiss to add a word respecting their consumption. In general, they are drawn, and given to neat cattle, either in cribs or stalls, which is productive of a vast quantity of muck; or else they are scattered before them, as well as the fattening sheep, upon a dry piece of pasture or stubble; and of late years, it is become common, to strew them before cattle upon the young wheat, and, upon light land, I believe there can be no better husbandry; by which means, they go much farther than they would, if trodden into the dirt,
and

and enrich the land very much upon which they are so thrown; it being understood, in Norfolk, that the land wherein they grow, is left in sufficient heart, by the manure bestowed upon it for the turnips: so that it is apparent, that by manuring one piece of land, they manure two. Indeed, where the land is poor, they draw every other ridge, and feed the other off with sheep, as in other counties; but this is not by any means the general practice (*g*).

The barley, after turnips, is generally sown upon a third ploughing (*h*), and the grafs feeds with it; and as the ground has been effectually cleaned, by five ploughings, the preceding year, it is generally in a fine state when laid down in this manner.

I shall close the whole process with an observation upon the clover:—This, upon the six-course shift, is generally mowed for hay the first year; and the second year, it is grazed till midsummer, and then broke up for wheat in succession. Where the four or five-course shift is practised, the wheat is sown upon one year's lay, and it is thought good husbandry to muck or ash the clover, in the spring, just before it is laid up for mowing, which of course produces a very great crop of hay, and leaves the ground in a very high condition, for the succeeding crop of wheat.

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(a) Upon this subject, there are three gentlemen who differ from me. Sir Thomas Beavor asserts, that "shallow ploughing is in most cases disapproved of by judicious farmers, quotes garden ground, and supposes the moisture will be more preserved the lower the pan lies from the surface."—Mr. Howlett admits, that "it may do very well in Essex, Suffolk, and Norfolk, but thinks, in the deep Kentish soils, that thistles would never be effectually checked by shallow ploughings."—Mr. Fox thinks, that "the pabulum imbibed from the atmosphere, is proportioned to the depth of the furrow, because a greater surface of earth is hereby exposed to its influence. Plants also thrive best where they shoot with freedom, and this they do more effectually, it is submitted, when the soil is loosened to a due depth." For trees and plants of deep root, the depth which these gentlemen recommend, is unquestionably proper; but, with deference to their opinion, I do not think it necessary for the production of corn. It is not, however, from mere opinion, that I have advanced this doctrine, but from very extensive observation.—The allusion to gardens will not hold good in this case, as the soil there is always kept in motion by the spade or hoe.

The parts of England, which I have seen, are cleaner, that is, more free from weeds, where the soil is ploughed only to eight inches depth, and a good pan preserved under it, than where it is ploughed to a greater and irregular depth.

In many parts of Cornwall, the land is exceedingly fruitful, where the soil is very shallow, and it may be worth observation

tion, that even hand hoeing often cleans land more than deep ploughing ; for the latter only turns the roots of the weeds over, which gives them fresh vigour, by the motion, but the latter more effectually destroys them, by bleeding them (if I may be allowed the expression) at the neck of the root. Another strong argument, in my opinion, in favour of shallow ploughing, or rather, against very deep ploughing, is, that there is a less body of earth to keep in heart and good condition, and the manure, which has always a tendency to escape downwards, is kept longer near the surface.

(b) The following remark is made by Sir Thomas Beevor. "A quarter of wheat, weighing 60 lb. to the bushel, producing about 480 lb. of white bread, (the only bread the poor should eat) will give about 19 oz. per diem, which is as little as can well be allowed to each person, being almost the only food of the poor, and in the houses of industry and prisons the allowance is not less than 2 lb. and $1\frac{1}{2}$ lb. per diem, six bushels therefore, which will give but about 15 oz. per diem, it is apprehended, is beneath the quantity consumed." I believe Sir Thomas is quite right, if his remark is applied merely to the labourers in agriculture, allowing them white bread only ; but, if the whole of the superior, middling, and manufacturing classes of mankind, who eat plenty of meat, be taken into the calculation ; and standard, instead of white bread, be eaten, I do not think that, one with another, more is consumed than six bushels by one person in the course of a year.

(c) Mr. Howlett says, "some persons in this neighbourhood, (meaning Dunmow, in Essex,) so far reverse this practice, that they prefer year old wheat to new, and think that they thereby secure their crop more effectually from being smitten. This, perhaps, merits further enquiry." This gentleman has totally mistaken my meaning. I do not say any thing

thing about any preference to old or new wheat, but merely recommend the proper season for sowing, by taking a hint from nature, inferring, that less seed will answer the purpose when the proper season is attended to.

(d) Dr. Temple says, "it ought to be a very good acre, and of good quality to do this. In the stalls it may do it."

(e) Mr. Baillie says, "many parts, both of England and Scotland, practice a much better." I wish for the advantage of Norfolk, that this gentleman had been more particular in pointing out those particular parts, and till he does it, I must doubt the fact; for, if he is right, I have taken a great deal of unnecessary pains in describing and holding out the Norfolk system of turnips, as deserving imitation by the rest of England.

(f) Lord Roseberry remarks, that "rolling in the night has been used with success on turnips, when in their first leaf."

(g) Sir Thomas Beevor further observes, that "the best farmers, near Norwich, especially where the lands are rich and moist, feed their bullocks chiefly in yards, which have sheds erected in them, under which bins and racks are placed, whereby the cattle, kept dry and warm, thrive faster with less food, and with less waste of hay and fodder." In this method I entirely agree with Sir Thomas, and think the cheapest and best way of fattening a bullock, is to give him plenty of turnips, in cribs, in an open yard, with plenty of barley or oat straw, in a rack under a shed, where he can take shelter when the weather is bad. A beast treated in this way, will do as well, having his liberty with plenty of turnips and straw, as he will, confined in a stall with turnips and hay.

(h) To

(h) To Sir Thomas Beevor's remark on my former edition, in this place, where I had stated, that the custom was to sow barley after turnips, upon two ploughings, it is incumbent on me to acknowledge my mistake, and to allow, that Sir Thomas was right in saying, it should be three ploughings, which I have now stated it to be.



Section X.

GRASS LAND—WITH HINTS FOR ITS IMPROVEMENT.



THE meadows, are the first sort of grass land in the county, which I shall endeavour to describe; they are, in many parts of the county, reckoned much inferior in value to the arable land, and, in general, they are very much neglected.

In their natural state, they make a bad appearance, being spongy and full of rushes; yet they are seldom wet in themselves, but chiefly so from being dript upon by the springs which issue out of the arable land which lies above them. The best mode of draining these meadows, is to keep the rivulet open to a free discharge in the lowest parts (*a*), and to cut two very deep drains, one on each side, parallel with the rivulet, just between the arable and meadow land, where the springs generally shew themselves; and these two drains, if they are sunk deep enough to get below the springs, will, nine times out of ten, lay the meadows dry.

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The Effex mode of under-ground draining, from the loose pulverized state of the soil, has not been found to answer here so well, as upon a more cohesive soil, nor is there any other which does so well for the meadows, as what I here describe; but where the plough goes, if the land be wet, or full of springs, the Effex mode is best, and stones, when they can be met with, are, in such cases, to be preferred to wood.

The next thing, if they are very coarse, is to spread upon them ten or twelve loads of small gravel or sand, per acre, which will tend more than any thing to give them firmness, fine the surface, and sweeten the herbage, by encouraging what is called the Dutch clover to spring, with which the earth is every where impregnated. I have found, by considerable experience, that this is the best improvement for Norfolk meadows. Mr. Marshall recommends watering, and says it would double their value; Mr. Colhoun, and some other spirited gentlemen in the neighbourhood of Thetford, have lately introduced the practice there, to which I wish most hearty success, but am much inclined to doubt its being extended to any great benefit in this county, for I have tried it more than once. It is an improvement that ought to be introduced wherever circumstances are in its favour, but I have not found it answer here, for two substantial reasons; because the country is so flat that you cannot

cannot bring the water on with a sufficient spirit; and if you could, the soil is so dead, it would not have the effect it has upon a gravel. It is the first of all improvements, undoubtedly, where it can be effected, and where the soil is of a quick and lively nature, it generally answers, if it be ever so poor.

The marsh-land comes next under consideration. The greatest part of the hundred of Freebridge Marsh-land may be considered of this kind.—The chiefest part of this soil is a rich ooze, evidently a deposit from the sea. The north part of this hundred is highly productive; but the south part very much injured, for want of a better drainage, which it is now likely to have, as a recent act of parliament for this, and other purposes, has been lately obtained.

A second division of Marsh-land, lies upon the north coast, between Brancaster and Cley. These are of a very good quality; but they are kept embanked at a very considerable expence, for if the sea were to overflow them, they would be ruined for a very considerable time.

Another very considerable district of marsh-land, lies between Norwich and Yarmouth; most of which are under water the greatest part of the winter, and, in the spring of the year, are chiefly drained by mills.

All

All these marshes are capable of bringing a beast very forward, in the course of the summer, and many of them will fat a bullock at the rate of an acre and an half.

There are many large tracts of swampy ground, particularly in the neighbourhood of Ludham, which produce little more at present than sedge and reed. Perhaps the intermixed state of these lands may be the principal cause of their drainage being neglected; but their loss to the public is very much to be lamented, as there is no doubt but they would very well answer the expence of improvement.

A short observation upon gentlemens' parks may not be improper in this place.—In many parts, they are inclined to run to moss, as the soil in general is not naturally adapted to herbage.—Folding sheep, or strewing turnips before neat cattle is a great and obvious improvement upon such land; and occasional harrowing, and frequent rolling, is likewise much to be recommended. The former loosens the moss, and the latter, by its pressure, gives great encouragement and assistance to the annual meadow and crested dog-tail, two of our best upland grasses.

A certain number of sheep should likewise be kept, at least part of the year, in all parks, notwithstanding

withstanding deer are kept likewise; for no animal tends so much to the bettering of land, as they fine and sweeten it infinitely beyond any other.

Artificial grasses should be chosen agreeably to the soil.

Saint foin, should be introduced where there is a chalky, marly, or even a gravelly bottom.—White clover should be the principal grass where land is designed to be laid for a continuance.—Trefoil and burnet, upon high and poor uplands, designed for sheep walks.—Perennial darnel, or what the farmers call rye-grass, is proper upon light arable land; for though it is an exhauster, it serves better than any other to brace the surface.—A few acres of lucerne I likewise recommend to every farmer, who has a piece of loamy tillage near his house.

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NOTES.

(a) Sir Thomas Beevor says—"These directions are most judicious, and have, on long and repeated experience, been found efficacious."

(b) Dr. Temple is for laying on a much larger quantity, and says, "60, 80, nay 100 loads of sand will be found necessary, after drainage, to effect a cure for such land, and to make it firm and fruitful." The Dr. in my opinion, would much over do the thing—though, if the expence be out of the question, I have no objection to twenty loads. It is not so much for adding depth to the soil, as for giving encouragement to the white clover, by checking the rougher herbage on the surface, which chokes and overpowers it. Sir Thomas Beevor conceives my meaning much better, where he says, "Such quantity may so far invigorate the Dutch clover (the plants of which, though existing before, were so diminutive as to have escaped observation) as to render it conspicuous; which is, I conceive, what the author of this view meant, when he says—that the earth is every where impregnated with it."

Section XI.

*AVERAGE CROPS, AND SCALE OF
RENT.*

THERE are some parts of Marshland and the Flegg hundreds, which will produce six quarters of wheat, and ten of oats, upon an acre; but, in very light parts of the county, the farmer is glad to get two quarters of wheat, and three of barley. However, I believe the general average crops of the whole county, one year with another, may be estimated as high as three quarters of wheat and four of barley, and other articles in proportion (*a*).

In some parts of Marshland, there is a considerable deal of rape seed grown: in the parishes of Outwell, Upwell, Emneth, and some others in the neighbourhood of Wisbeach, there is likewise a considerable deal of hemp and flax sown. The average produce of the former is about forty-five stone, and the latter about forty, which are valuable crops. These articles are of national importance, and if properly considered, no injury to the land;
for

for when they are cautiously interwoven with other crops, so as not to come round above once in ten or twelve years, it would be well if the cultivation of them were more general.

No population can be greater, or of a more useful sort, than that which is raised and supported by a country, where this practice prevails; as may be proved, by reference to many parts of Somersetshire, Dorsetshire, and Yorkshire, where it occasions so much profitable labour, that no person, in such a situation, wants employ.

Respecting the scale of rent, it is the most difficult question to answer, with precision, of any the Board requires; for there is nothing so unequal in the kingdom, as the rent of land. Corn, and all articles of merchandize, preserve some degree of proportion; but the price of land, is so much affected by local circumstances, that it has no regular standard, though it would be a great advantage to agriculture if it had. Persons of small fortune, and tradesmen, when possessed of a little land, are naturally induced to get as much as possible for it; and farmers, above all others, when they become owners, make the worst landlords in the kingdom (*b*). It is therefore to large estates, that we are to look for moderation in rents (*c*), as they are generally let upon a fair and consistent scale. From this consideration, more than any

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other,

other, great estates are of advantage to the public, as they have a tendency to keep the price of land down to a proper level, which otherwise would, in many places, become so excessive, as to give no encouragement to an industrious occupier.

As to the general standard however, of rents in this county, subject to poor rates and tythes, I believe it varies from 20s. to 16s. an acre, in the first division of the county, which I have described; from 18s. to 14s. in the second; from 14s. to 8s. in the third; from 12s. to 4s. in the fourth; and, in the Marshland hundred, from 30s. to 20s. The average of the whole county is about 15s.; and though this would be a dear rent, for the same soil, in most other counties, the nature of the husbandry, and the industry of the inhabitants, render it easy, and rents are better paid in this county, than in almost any other, as there is hardly any such thing as an arrear known; at the same time, the farmers live, as they are entitled to do, with comfort.

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NOTES.

(a) Sir Thomas Beevor says, "the average of the wheat crop is certainly set too high, as there is a great deal of land, in this county, sown with wheat, which is too light and poor to produce above 12 or 14 bushels per acre; it is apprehended, that $2\frac{1}{2}$ quarters, per acre, is rather above than under the general average of the whole county." I cannot, however, alter my opinion upon this, as I have taken great pains in comparing the quantity of good and bad land; from which, I have formed my idea of this average.

(b) Mr. Baillie remarks in this place, "this is very true."

(c) Mr. Howlett says, "this seems a far-fetched recommendation of large farms, and which they by no means stand in need of: Large farms are managed at a much smaller proportional expence, and raise a larger proportional produce. The conclusions are obvious." Mr. Howlett must allow me to say, that I had not the least idea of great farms. I cannot see upon what grounds of consistency Mr. Howlett could suppose, I meant to compliment large farms on this occasion—I meant large estates, and it surely is clearly expressed so. As to the larger proportional produce, and the other advantages, which he describes to large farms, they are not so obvious to me, as to him.

Section XII.

IRREGULAR CROPS.



THOUGH it is highly proper to confine tenants to a regular system of cropping, yet there are some little variations, that under certain circumstances, they ought occasionally to be indulged in.

When, for instance, a piece of land is well cleaned, mucked, and sown with turnips, and the crop, notwithstanding all possible care, does not succeed; in such case, if the tenant be allowed to sow wheat (*a*), and, in the ensuing spring, clover among it, no harm can result from it, as it would have been seeded with barley if they had succeeded.

No landlord ought to object to this, as the land is neither injured, or ultimately put out of course by it; at the same time that the difference in value, between a wheat and a barley crop, will be a full compensation for the inconvenience the tenant sustains, by the loss of his crop of turnips.

Sometimes

Sometimes it will happen, that grafs seeds will not take root. In fuch cafe, it would be a hardship to confine a tenant to keep that piece of land in an unproductive ftate for two years : he fhould, when this happens, be allowed to take a crofs crop, being confined to turnip or vetch it, after fuch extra crops.

The vetch is a moft excellent thing ; and great advantage may be derived from it, in various fhapes. If a piece of barley or wheat ftubble, which comes in courfe for turnips, be found tolerably clean and mellow after harveft, it is a good practice to fow vetches upon it, and harrow them in, as foon as the corn is off. They will often produce a great deal of valuable feed for ewes and lambs in the fpring, when fuch kind of affiftance is of ineftimable worth, and yet admit of the land being got into very good order for turnips. They are likewife of the greateft profit when cut green, in the courfe of the fummer, and given to cows and working horfes, in the ftable. An acre, cut and ufed in this way, will go farther, and do the horfes more good, than two acres eaten off in the field : working horfes want reft ; in the ftable they are not teafed by flies ; befides, the quantity of muck which horfes make, fo foddered, is prodigious.

Exclusive

Exclusive of these helps from the vetch, a few acres of potatoes, and the drum-headed cabbage, are greatly worth a farmer's attention; for they are excellent food for milch cows, and answer well, and ought to be cultivated much more than they are, as there is but a very small quantity planted in this county. Carrots are likewise of great value to a farmer, and ought to be grown in greater plenty than they are. A few acres of lucerne, when a good plant can be got, and it be kept clean, is likewise a wonderful help.

Buck-wheat classes, more than any thing, with the irregular crops; though it is not sown so often as it was formerly. When it is sown, it is mostly introduced after the barley that follows the wheat, and is frequently succeeded by wheat; but this is reckoned bad husbandry, and ought not to be allowed, unless it be ploughed under for manure, or unless the wheat stubble which follows it, be turniped.—The best mode of introducing it, is after wheat, instead of barley, when it may be housed as a crop, and then to turnip the buck stubble. This last is good husbandry, as it does no sort of harm to the land, and is an excellent forerunner to turnips, which generally grow kindly after it, and, this way, the land is not at all put out of course.

Pease are generally sown upon land coming on for a second year's lay; beans and hops are but
little

little cultivated ; cabbage, for cattle, is but seldom planted ; orchards very few, and much neglected—consequently no cyder.

But above all, where land has a chalk or marl at the bottom, let not faint-foin be forgotten (*b*) upon such a foil as this ; or even where there is gravel under a good surface, it is impossible to say too much in its favour. In this country it is but little known ; I believe the first person who brought it into Norfolk, was the late Sir Henry L'Estrange ; next to him it was countenanced by Mr. Rolfe and the Rev. Armine Styleman ; but the greatest planter of it is Mr. Coke, who has, this dry summer, cut two hundred and sixty-five loads of excellent hay, rather exceeding a ton to a load, from one hundred and four acres. This was from a plant of four years old, upon land not worth more, for any other purpose, than twelve shillings an acre. He is so convinced of its great utility, that he has lately laid down an hundred acres more, and has it in contemplation to carry the cultivation still further.

Next to advising the planting all land, that will bear it, with faint-foin, and the flooding of all meadows, where water can be got over, as hay is at all times an article of the greatest value to a farmer, and what almost every country is crying out for, if a winter is at any time severe, I most urgently recommend

commend to all farmers, to be more careful of it, than they generally are. It is not uncommon to see a fourth or a fifth part of it wasted in the consumption, by being given to cattle in too great quantities at a time, and in a loose, slovenly manner. Racks, with close bars, should be observed for horses; and deep cribs for oxen. Sheep are still more apt to create waste; therefore the cutting of hay, in like manner as straw is cut, into chaff, is a frugal and excellent practice; for by this means, there is no waste at all: and it is certain, that hay given in this way, will go considerably farther, than if given in the old way. It may also, by this means, be often, with great propriety, mixed for oxen or horses, with a small proportion of straw.

I am so thoroughly convinced of the advantage attending this mode of consumption, that I shall steadily adhere to it, wherever my authority or influence extends.—The usual price for cutting in this county, is 3d. for four heaped bushels, and a man, who is expert at it, will earn 3s. 6d. a day.

NOTES.

NOTES.

(a) Sir Thomas Beevor says, "If this be allowed, the land should lay two years in grafs, otherwise the fucceffion of wheat will be too quick, but if on a ftrong foil, he recommends a crop of beans."

Sir Thomas Beevor is perfectly right in faying it fhould lay two years after wheat—fuch is my meaning too; but beans will not do, becaufe in that cafe the grafs-feeds could not be fown.

(b) Mr. Dan very ably feconds my recommendation in this place by the following remark—"I have cultivated faint-foin extenfively, and on a thin foil, with a chalk and gravelly bottom, many years; and do not know any thing that can be cultivated more advantageoufly on fuch a foil."

Section XIII.

FALLOWING EXPLODED.



IT is a question with some persons, whether summer fallowing be necessary or not? I am one of those who do not think it is. Nature does not seem to require any pause or rest of this kind; all plants make their annual shoots, as regularly as the day succeeds the night. The earth was evidently designed to yield a regular uninterrupted produce; and it does so, where we leave it to itself. If you do not sow corn it will produce weeds: its productive quality never ceases. It is therefore our business, by good culture, to expel the unprofitable plant, and introduce another, from which we may derive benefit. The idea of leaving land to rest is ridiculous; keep it clean, and intermix the crops sown upon it judiciously, so that one may fertilize as much as another exhausts (*a*); and it may be sown as a garden is planted, from one generation to another (*b*). Look at half the common fields in England, where the system established by the old school is called two crops and a fallow.

What

What does this exhibit, but a conflict between the farmer and his weeds, in which the latter generally get the better; for they are only half stifled, and never effectually killed?

On the other hand, view this county, which yields a crop every year, without being exhausted (*c*); and though the soil in many parts is light and ordinary, by being kept clean, seldom fails of a fair return, which enables the farmer to employ more hands, and give a better rent (*d*); which are two important considerations, the one being beneficial to the country at large, the other to the landowner.

This subject seems to have excited some doubt and objection, as will be seen by some of the comments annexed. I do not, however, see any reasonable ground for the support of fallowing. The Austrian Netherlands, one of the most productive districts in Europe, allows of no such useless interruption in the rotation of its annual crops, nor does this county, which is the nearest copy to it of any part of England. The turnip crop, in fact, is here the fallow, and certainly brings land into a cleaner state than any other mode of cultivation.

Those who talk of resting land, seem to consider it in the nature of an animal, which undoubtedly must have rest as well as food, to go through la-

bour; but surely this does not hold good when applied to the nature of land, which, by proper attention, will be found grateful and productive without ceasing.

I apprehend, the custom of fallowing, originated from the ancient state of the common fields, before the introduction of turnips and artificial grasses; in this early period of our husbandry, fallowing was absolutely necessary, as there was but little stock then kept in proportion to what there now is, therefore land could not be so often or so well manured as now; with the inclosure, therefore, of common fields, fallowing ought to have ceased, in other parts as well as here; but where farmers still continue the reprehensible practice of taking three crops in succession, which is still the case in many parts of England, there fallowing is absolutely necessary; but it is by no means a necessary part of Norfolk husbandry.

NOTES.

(a) Mr. Baillie remarks, "this is the only thing wanted—
 "but I suppose Mr. Kent means that the fertilizing crop is to
 "pass through the body of some animals, to convert it into
 "manure, and not that a crop growing upon land will ferti-
 "lize it." My meaning is plain, that a crop of turnips,
 vetches or even clover, either fed off upon the ground where
 grown, or consumed in the stables, stalls and yards, will add
 as much benefit to the soil, as the wheat and barley crop will
 injure it.

(b) Mr. Howlett says, "all this specious theoretical rea-
 "soning seems to be sufficiently refuted, by an appeal to fact
 "and experience, made in the Essex Survey, page 16.

"Indeed, the expediency of fallowing, or not, must de-
 "pend partly upon the nature of the soil, and partly upon
 "the quantity of manure that can be raised."

What grounds Mr. Howlett can have, for calling this mere
 specious and theoretical reasoning I know not, and as to the
 expediency which he alludes to, I trust I have sufficiently
 explained that at the latter end of this section; but I wish he
 would attend to the next commentator but one.

(c) Mr. Baillie has another remark to the following effect,
 "This cannot be fairly said, because it has been complained
 "of, that it does not produce turnips so well now as for-
 "merly, &c. The greatest defect of the Norfolk system
 "seems to be in ploughing too much, and of not keeping of
 "more sheep, and of a better kind." With submission, I
 think,

think, that too much stress is here laid upon what I said about the land not being so kind for turnips as formerly; so far it is a fact, but this did not mean to imply, that good turnips were not still grown; all that was meant was, that more care and attention was required; but, notwithstanding the inconvenience I allude to, I may boldly say, that I have never seen so good turnips, or so many acres of them, in any other county, as are still grown in Norfolk.

As to saying it is a defect in the Norfolk system by ploughing too much. How can that be? when there is only half the arable land in corn and grain, at any one time, either under the six-course or the four-course shift,

Respecting cattle, I know no country, of a similar soil, where so much are kept; and as to the sheep, Mr. Baillie must excuse me, if I do not give him credit for being a proper judge of what are the best sort of sheep for this county.

(d) Mr. James observes, that—"The perusal of the first two paragraphs has afforded me great satisfaction. The necessity of summer fallowing is at last called into question, and I have no doubt, if we could overcome people's prejudices, (which, by the bye, is more difficult to destroy than the weeds) this practice would be entirely exploded.—I conceive, the intention of them is not so much to afford the earth that pause or rest, on which our author has so ingeniously and so very reasonably remarked, as by furnishing the farmer with an opportunity of exposing the roots of the weeds to the rays of the sun, by repeated ploughings, in order to effect their destruction. But let me ask, by way of exposing the fallacy of this method of fallowing, how would this destruction be effected in the case of a dripping summer? And would it not be very unfortunate for that person who was under the obligation, by the articles of his lease, or his unconquerable prejudice, to fallow in such a season? Would

" he

" he not lose a year's rent of that part of his farm, without
 " being one jot the forwarder, with the addition of a con-
 " siderable expence, incurred by a great proportion of la-
 " bour, into the bargain? Surely this, if properly confi-
 " dered, proves, incontestibly, the system to be founded
 " upon wrong principles, and ought to induce us to receive
 " any opinion, advanced with a corrective motive, as wor-
 " thy our consideration at least, and by no means a fit ob-
 " ject of our indifference, not to say contempt. The Society
 " for the Promotion of Arts, have taken great pains upon
 " this subject; they are actuated in this, as in every other
 " measure, by genuine philanthropy, and are anxious to be
 " the means of saving the tenant, or land-holder, one rent in
 " three. The method which I wish to recommend is, alter-
 " nately to grow meliorating and exhausting crops, and to be
 " careful, in the progress of their growth, to hoe them occa-
 " sionally. The drill-husbandry, wherever it can be ap-
 " plied, ought, on this account, never to be neglected, and
 " consequently, the broad-cast husbandry, for the same rea-
 " son, should be abolished, excepting for turnips and the
 " smaller seeds: in fact, any method, and of which there are
 " many extant, is to be preferred to this. It is a trite obser-
 " vation, that the cleaner any land is kept, the less care is
 " requisite to continue it so; and I am clearly of opinion,
 " if the crops are well preserved from weeds in their in-
 " fancy, when they are in the most danger, and the hoeing
 " continued as long as can be conveniently with their safety,
 " the produce will be increased, and by the weeds being era-
 " dicated (for the bare cutting off their tops will not be suffi-
 " cient) their seeding will be prevented, as well as their pro-
 " pagation from the roots; from hence I infer, the necessity
 " of summer fallowing may be superceded."

This gentleman is a fair, liberal, manly commentator, open
 to conviction, and, apparently, guided by no other motive,
 than that of promoting improvement.

Section XIV.

COMMON FIELDS & INCLOSURES.

THERE is still a considerable deal of common-field land in Norfolk, though a much less proportion than in many other counties; for, notwithstanding common rights, for great cattle, exist in all of them, and even sheep-walk privileges in many, yet the natural industry of the people is such, that wherever a person can get four or five acres together, he plants a white-thorn hedge round it, and sets an oak at every rod distance, which is consented to by a kind of general courtesy from one neighbour to another.

It has long been a subject of infinite conjecture, how the land of different estates became originally so scattered and divided in common fields. Lord Chief Justice Coke, in his Reports, says, "The policy of old times, in severalling of fields in small parcels, to so many different persons, was to avoid inclosure, and to maintain tillage."

Many

Many other reasons are assigned. But, waving all useless investigation of this sort, I shall briefly consider the disadvantages that land, of this description, is at present subject to, and endeavour to shew the advantages that would result from laying it more together.

Land, when very much divided, occasions considerable loss of time to the occupier, in going over a great deal of useless space, in keeping a communication with the different pieces. As it lies generally in long narrow slips, it is but seldom it can receive any benefit from cross ploughing and harrowing, therefore it cannot be kept so clean; but what is still worse, there can be but little variety observed in the system of cropping; because the right which every parishioner has of commonage over the field, a great part of the year, prevents the sowing of turnips, clover, or other grass seeds, and consequently cramps a farmer in the stock which he would otherwise keep. On the contrary, when land is inclosed, so as to admit of sowing turnips and seeds, which have an improving and meliorating tendency, the same soil will, in the course of a few years, make nearly double the return it did before, to say nothing of the wonderful improvements which sometimes result from a loam or clay; which will, when well laid down, often become of twice the permanent value in pasture, that ever it would as ploughed ground. Most striking effects

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of this sort are to be seen in Leicestershire, Northamptonshire, and other midland counties. This, indeed, has been urged by some as an argument against inclosing, as they would infer that it lessens the quantity of arable land too much, and tends to make corn dear; but the excess of grazing and ploughing will correct itself. If arable land be laid down, there is a great deal of coarse old pasture land which may be broken up, the turf of which wants renewing; and this old grass land, which could not so well have been spared before, is, of all land, that which is most adapted to the growth of potatoes, hops, hemp, and flax. The markets will ever regulate the proportion of arable and grass land, better than any fixed plan that can be suggested.

If we properly consider the benefits resulting to population from inclosing, (though that, as well as the advantages which might be derived from commons, has been superficially questioned) it will strike us with astonishment (*a*). Let the population of England be compared with what it was fifty years since, and I presume it will be found increased nearly a third. If I were asked the cause, I should say, that I believe it is chiefly from inclosing; and my reasons for it are, that in all places where my observation has come, it carries full proof. I have seen the effects in many parts of England; but I shall subjoin one striking instance, in this county. The parish of Felbrigg, belonging to Mr. Windham,

ham, Member for Norwich, consists of about 1300 acres of land, and till the year 1771, remained time out of mind in the following state: 400 acres of inclosed; 100 of wood land; 400 of common field; and 400 of common or heath. By authentic registers, at different periods, it appeared, that the number of souls had never been known to exceed 124, which was the number in 1745; in 1777, they were only 121; at this time they amount to 174. This rapid increase I attribute chiefly to the recent improvements made in the parish, by inclosing all the common field land, and by converting most of the common into arable land and plantations. The parish has no particular connection with any other, and therefore its own increase of labour and produce must be the principal cause at least of this striking alteration. The parish of Weyburn, which remains uninclosed in this neighbourhood, belonging to Lord Walpole, who possesses, in a very eminent degree, the three great characteristics of a country gentleman, a good magistrate, a good neighbour, and a good landlord, is the most like what Felbrigg was before its inclosure, consisting of about the same quantity of common and common fields; but I do not find that the population there has increased of late, which is a corroborating proof of inclosures being in favour of population.

If then, inclosing be found so beneficial, every obstruction to it ought to be removed. In the

first place, were there one general act of parliament formed, under which any parish that could agree in itself, could be able to take shelter, or even any two or more persons, agreeing upon any exchange of land, or a separation of a mixed interest, whereby the inclosing of such land was the result, upon paying a small consideration, to receive the sanction of a short summary law to bind their agreement. This would insensibly lead to a vast field of improvement (*b*). Something of this sort was lately attempted, but not carried through, and perhaps there might be something exceptionable in the plan. It is, however, to be wished, that some member of the House of Commons would consider the magnitude and importance of the object, and bring it forward again. If such an attempt be made, upon sound and rational principles, I flatter myself, the present Minister would not be against its introduction; nor, I trust, at a loss, to find the means of removing one of the principal objections to the present mode of inclosing, namely, the great expence, when a bill is solicited, which always operates as a powerful discouragement to undertakings of this kind, and sometimes sets them wholly aside; especially, as the fees are double, if another parish has the smallest share in the emoluments, though the trouble to those who pass the act is not doubled by it. But this is not all the discouragement (*c*), for in the course of obtaining the bill, the evidence must go up to town, and
attend

attend a committee of the Commons, afterwards be sworn at the bar of the Lords, and attend their committee also: and as these attendances are often at intervals considerably distant from each other, the evidence must all this time either be supported in town, at a great expence, or make three or four journies; and as this sort of evidence is generally given by professional men whose time is valuable, these delays are very inconvenient, and frequently operate so powerfully upon the minds of people, that many an inclosure is passed over which would otherwise be effected. This in a great measure will account for so many of our commons and common fields having remained so long in their present state. In making these remarks, it is not my meaning to cast reflections upon any quarter, but to awaken the attention of the Legislature and the Board of Agriculture to the importance of the subject, that all possible encouragement may be given to the honest enterprize of individuals; for all improvements in Agriculture, which carry great weight, and in the end become national objects, must be effected by the individual, because it must be the multitude that cultivate the hidden corners of the earth, and "out of a little make a mickle". Any thing which Government could do in a pecuniary way, by encouraging a few persons in a local situation, will never operate so extensively as the natural exertions of the public: doubtless Government will give the individual all the assistance it can,

can, to remove vexatious obstructions, and smooth the road to honest undertakings which individuals may wish to bring forward. It is likewise presumed, that it will be found policy in Government so to do, as it will ever derive a proportionate advantage from the industry of the people. I trust, therefore, that the Legislature will see the necessity of contriving a less expensive mode of sanctioning inclosures in general, for the good of mankind, as well as its own emolument.



NOTES.

NOTES.

(a) Mr. Wagstaff observes, that “an increased population, in consequence of inclosures, is happily here illustrated, and it might be pertinently added, that such lands, sub-divided into farms, from 40 to 100 acres, would, in as certain a ratio, increase the number of inhabitants, as the cultivators of 1000 acres, inclosed from the waste, do increase the number of the local residents, when in the hands of one or two occupiers only, while the sum of the gains, on this division of occupations, will probably be equal in twenty families as the one or two, and the sum of their produce augmented; while farms, too large, are frequently the instruments of luxury to their possessors and their posterity, and what is really to be deplored, the cause of emigration of many capable agriculturists, whose disposition and habit would be indulged by a settlement at home. Under favour of the Board, by a line of permission from its President, I conceive I can lay before them, practical means for the constitutional redress of the aforementioned grievances, at least lessen their evil, and, in their whole tendency, be individually, socially, and nationally beneficial.

(b) The following sensible and manly remark, is from Lord Roseberry. “Such an act, and such a plan, would be the greatest blessing England ever met with, and by such a general act for inclosing and dividing commons and commonable lands, at small expence, parliament would do more for agriculture and population, than ever was done before.”

And Mr. Strachey wishes to see a similar “act for making turnpike roads, where a majority of persons, possessing a certain property, agree amongst themselves. An act of a moderate length now costs 200l. which is a great discouragement. The fees to the clerks of the House of Commons, and

“and House of Lords, are considerable; but upon the passing
 “such an act, for the public convenience and honour of the
 “country, either House might contrive a compensation to
 “those, who would be deprived of the emoluments which
 “now arise to them, from the turnpike bills annually brought
 “in.”

(c) Mr. James remarks thus:—“What is here hinted at
 “as the most powerful discouragement to undertakings of this
 “kind, namely, the enormous expences which are incurred,
 “I am of opinion, would entirely subvert the excellent me-
 “thod he has suggested, was it ever to be proposed; for the
 “persons benefited by these expences, are not quite so dis-
 “interested a set of men, as to relinquish them without oppo-
 “sition, and there is no doubt but here they would, in all
 “probability, be but too successful. If the Minister were to
 “introduce a bill, whose object went to the total abolition,
 “of not only particular, but fees in general, a number of
 “improvements would presently be the consequence, which
 “would not be confined to agriculture.”

Mr. Howlett is likewise a commentator upon this section,
 and admits, that what I say about the excess of grazing and
 ploughing correcting itself “is undoubtedly just and conclu-
 “sive; but where I suppose the population to be increased
 “nearly a third within the last fifty years, which, by the
 “way, was merely a supposition, he believes it to be above
 “the fact, and that the increase, since the Revolution, is little,
 “if any thing, above one third, though the greatest part
 “of the increase has taken place during the last fifty years,
 “that this has been occasioned, in some small degree, by in-
 “closures.—The tendency to increase population, he says,
 “he has fully established upon much better, more extensive,
 “and satisfactory evidence, than is here produced—and that
 “he has much more evidence of a similar kind now by him.”
 I hope this additional evidence will soon come out, and that
 it will be as satisfactory to the public, as it is to himself.

Section

Section XV.

THE COMMONS CONSIDERED.

THESE lie in all parts of the county, and are very different in their quality. Those in the neighbourhood of Wymondham and Attleborough, are equal to the finest land in the county, worth, at least, twenty shillings an acre; being capable of making either good pasture, or producing corn, hemp, or flax. There are other parts which partake of a wet nature, and some of a furze and heathy quality; but they are most of them worth improving, and all of them capable of producing something: and it is a lamentable thing, that those large tracts of land should be suffered to remain in their present unprofitable state. The arguments for the continuance of commons in their present state are, in general, fallacious; and though specious, are grounded on mistaken principles of humanity. The advantage they would be to society, if properly cultivated, would be very great, and

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the attention of the new Board will, I trust, soon be fixed upon this important object, so as to find the means of removing the great impediments which prevent their inclosure, upon which I have made a further observation under the head of common fields.

After making a fair deduction for roads, there are supposed to be somewhat more than eighty thousand acres.

From observation and enquiry, I find, that in the most fertile parts of England, the people employed in agriculture, and the rural trades connected with it, are in about the proportion of one to six acres; and if a proportionate number be added for the towns, and people employed in other trades, not connected with husbandry, the number will be, perhaps, as one to four acres of land. But as the more ordinary parts will not carry so high a population, the safer average may be to set the scale generally, as one to five acres; and as these lands do not support a third of the number of people which they would do, if they were cultivated; however, supposing they do, at this time, support a third of what they would do if improved, still there is an apparent loss of 10,666 persons, in this county only, which being highly agricultural, with a large proportion of manufactories and trade, I shall leave
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the benefits which would result from the inclosure of this great tract of land, to the estimation of the financier (a).

And why should not this rude tract of land be cultivated? Why should this rough jewel remain unpolished?



NOTES.

(a) Mr. James remarks thus:—"The advantages the public
 " must derive, from a proper cultivation of all the waste lands
 " and commons through the kingdom, seem to be obvious to
 " every one who is devoid of prejudice. The principal, indeed,
 " the only impediment, which has any weight with me, upon
 " this subject, is the encroachment it may occasion upon the
 " rights and privileges of the poor, and, if they are deprived
 " of them in one way, the difficulty of ascertaining what they
 " are precisely, and of providing them with an equivalent.
 " Some have proposed doing this by allotting a piece of land
 " to every cottage, but this method, at first sight, must ap-
 " pear objectionable, as this addition becoming the property
 " of the person to whom the cottage already belongs, the
 " benefit will not extend beyond its present tenant, and
 " property will not remain with him for any length of time,
 " as it may prove a temptation to his landlord to advance his
 " rent, and in a proportion inconsistent with the advantages
 " he may derive from it. Others have thrown out an idea of
 " purchasing the waste lands from their respective parishes,
 " and establishing a fund for the benefit of the poor, and

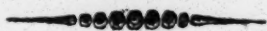
" those classes who come under our consideration. This me-
 " thod I have several objections to; namely, that it is more
 " likely to relieve those on whom the poor's rate are at pre-
 " sent levied, rather than prove itself that fair and equitable
 " equivalent, without which, this important reformation can-
 " not in honour be undertaken—but my principal one is, that
 " of substituting money as this equivalent. It ought to be an
 " object of our consideration, in this momentous business, that
 " the value of the exchange should be permanent, and, if
 " money is to be the exchange, how can this be said to be the
 " case. In proof of this, how much the labouring poor of
 " this country would have suffered, if this circumstance had
 " taken place in the last century, if money had been equiva-
 " lent, when it is so well known, how much alteration has
 " taken place in its value, while every necessary article of
 " life is more than doubled,"

Mr. Wagstaff says, " perhaps there are certain tracts of
 " land, necessary ranges for combined flocks, belonging to
 " small proprietors, whereby the fleece is improved: but
 " there is this misfortune attendant on rich commons (and
 " such are what this gentleman truly remarks of Wymondham
 " and Attleborough) through each claimant on them making
 " the most of the present advantages, without adverting to a
 " wanted improvement that might continue and secure, in the
 " future, an addition of advantages; through this defect, of
 " what is every claimant's business, such as undrained waters,
 " which contaminate where they continue, and is, I am per-
 " suaded, an addition to the too lengthened continuance of
 " their ranging, the origin of the decay, which, sometimes,
 " becomes contagious to other sheep; and this, I presume,
 " arising for want of a compulsory tax, to oblige the several
 " claimants to improve their common privilege, by requisite
 " drainage, ditching, embankment, and elevation of low
 " ground, to which might be added, the omission of summer
 " mowings of the immensity of thistles and ragweed: as by
 " these attentions, the salubrity and certainty of an excellent
 " pasturage

“pasturage might be perpetuated; then, under these circum-
“stances, perhaps, they may not admit of much more im-
“provement. But very different are the commons of a
“furze and heath production; nothing short of cultivation,
“can make them properly productive. But, as I have taken
“the liberty to address the Board, on commons of this de-
“scription, I must beg to refer them to what I have already
“said, and what I propose farther to say, in another address
“to them respecting Moswold. I feel an ardent wish to
“see the extended waste Moswold cultivated, (which is
“partly within the boundary of this city) and which is like-
“wise a part of fifteen country parishes. I was thinking that
“in inclosing it, that it might be a subject of policy, as well
“as justice, to appropriate for the cottage poor, solely, a
“common, from thirty to forty acres, to each parish; this
“would be a sacrifice that might bespeak their acquiescence,
“and appease a possible disposition to turbulence. These
“concessions, I conceive, would not be a twentieth part of
“the whole; perhaps what is in the precincts of Norwich,
“may have a rental reserved for an annual distribution to its
“poor inhabitants.”

This interesting subject of commons, is much indebted to the two gentlemen, whose observations I have here inserted; the humanity and good policy of their tendency, are equally to be admired, and I make no doubt, but some material advantage will be derived from their useful hints.

Section XVI.

WOODS AND PLANTATIONS.

IN my first report, I stated, that the woodland, of an old standing, was not considerable; that a single wood, or coppice, was found here and there, but no great tract together; and that the county was not remarkable, for any particular application of the underwood, further than the mere purpose of sheep hurdles and materials for thatching. At that time, I considered Foxley wood, which is three hundred and nine acres, belonging to Sir John Lombe, Bart. as the largest in the county, which I still believe to be the case; but I have since learnt from Sir Thomas Beevor, that there are several other considerable woods in Ashwell Thorpe, Hetherfet, Ketteringham, Hethel, Bunwell, Hempnall, and Shottisham, of eight hundred or a thousand acres, in the aggregate, besides several other smaller woods in other parts, and that the underwood is used for hoops, as well as thatching, and other purposes of repairs.

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The modern plantations, such as relate to the mere embellishment of gentlemen's seats, have kept pace in this county with most other parts of England. Great bodies of firs, intermixed with a less number of forest-trees, have been planted, by most of the gentlemen of large fortune, in their parks and home grounds; but the planting of pits, angles, and great screens, upon the distant parts of their estates, which I conceive to be a greater object of improvement, has been but little attended to. I shall mention two or three plantations, and add a hint upon this subject, which I flatter myself will deserve notice.

Mr. Marfham, of Stratton, ranks first in priority, as he (like the late Lord Bathurst) has planted trees with his own hand, that he might sell for six or seven pounds a piece, if he chose to cut them down, and, among a great number of other remarkably fine trees, he has a Spanish chestnut, which he planted a nut, with his own hand, and afterwards transplanted it into a poor sandy soil, which now runs, timber 58 feet, and squares upwards of 22 inches at the butt, so that it must be, at least, 80 cubical feet of timber; and I trust this truly respectable country gentleman will live to see his favourite tree increase considerably more, for he is a comfort to the neighbourhood he lives in, and has obliged the world with many ingenious observations upon nature, and has recently made
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some laudable experiments for facilitating the growth of timber, by keeping the bark clean from moss, and opening the surface of the earth round the trees, to let moisture and air into the roots: and though this assistance cannot be given to trees upon a very large scale, it may often be adopted in favourite spots, and small plantations, to great advantage; and he has so judiciously scattered a great number of trees on the sides of the road near his residence, by planting them in the Flemish stile, without their heads, that they have flourished extremely, and changed the dreary prospect of a poor common to an agreeable sylvan scene.

This practice of Mr. Marsham's having been misunderstood, from my former way of describing it, it is incumbent on me to give it some explanation.

In Flanders, where they plant trees eight or ten feet high, it is a very common thing to strike off part of the spray, and sometimes the top itself, to prevent the wind from having too much power over it, till the roots have taken hold.

Mr. Marsham imitates this practice, and by so doing, has raised a great number of valuable trees upon a poor bleak heath, where he could not otherwise have raised them at all; for he did not like to deprive the poor of their herbage, by inclosing

closing a part of it for entire plantations, and if he had planted smaller trees, the rabbits and hares would have barked and ruined them; or if he had planted larger trees, with their natural heads, they would not have grown at all in such an exposed situation. And it must be understood, that these trees have not a stiff formal appearance, like an old tree which is reduced to a pollard, but in the course of ten or fifteen years, after they are planted, grow into a handsome symmetrical form, for their heads are not entirely cut off, so as to be left like a dead stick, but only reduced in their heads and branches, and left somewhat in the original shape they were inclined to take.

Mr. Berney, of Bracon, ranks next as a planter, in point of date, as he has paid great attention to it for upwards of fifty years. In the year 1757, he obtained the honour of a silver medal for a large plantation of oaks.—His Spanish chesnuts are very fine, many of them fourteen or fifteen inches girth, and his larch as much; and he has the merit of having done more to establish the credit of the latter than any other person I know: he has put it to almost all the purposes of buildings, such as principals, spars, lath, and boards; likewise to many cabinet uses, such as doors, tables, window-frames, book-cases, chimney-pieces, and many beautiful specimens in carving. In short, he entertains the highest opinion of it; and, having made obser-

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vations upon the proper season for felling it, as well as all other firs, he recommends it to be done in the months of July or August, as he has found, by experience, that the liquid which oozes out at that time of the year, almost immediately turns to a sort of rosin, which operates as a stiptic, so that the wood is not so much drained as at other seasons, but hardens and comes into use sooner, which is a hint worth notice (*a*).

Among the modern planters, Mr. Coke unquestionably ranks foremost. He has planted, since he has been in possession of his estate, four hundred and eighty acres of different kinds of plants, two-thirds of which are meant to be thinned and cut down for underwood, so as to leave oak, Spanish chesnut, and beech, only as timber. His intention is to continue to plant fifty acres every year, till he has completely environed three thousand acres of land, which is to compose his park and demesne farm. These plantations already afford great cheerfulness; and, as the ground has more variety than many other parts of Norfolk, they will give a bold effect, and be truly correspondent to the magnificent seat they are meant to adorn. I cannot quit Holkham, without taking notice of a very commendable part of Mr. Coke's practice in planting, which is, his allowing the neighbouring poor to plant potatoes (*b*) among his young trees, the first two or three years, which is a great comfort to them,

them, keeps his land effectually clean, and saves him a considerable expence in hoeing (c).

Mr. Windham, of Felbrigg, is also a considerable modern planter. His plantations are designed to answer two purposes, to ornament and belt round his park, and to extend his great woodland scene nearer the sea, towards which, at two miles distance, it forms a grand bulwark, and from which he looks down an easy declivity, over a bold shore, to an unlimited prospect on the German ocean. Most of his plantations have been raised from seed; and there is one that stands unrivalled; it was sown with acorns, Spanish chesnut, and beech-mast, seventeen years since; has been already twice thinned for hurdle wood; the trees, most of which are thirty feet high, being at the regular distance of twelve feet, with a valuable underwood at four feet distance. This plantation was taken out of the park, was well fallowed the preceding summer to its being sown, and, during this state, there was a flock of sheep in the park, which were continually laying on the fallows, to which, in a great measure, I attribute its astonishing floridity, as it surpasses every thing of the kind I ever saw, and therefore I mention this as a thing worth attending to.

There is another plantation which is highly deserving notice and imitation; it is a belt sixty-six yards wide and nine miles round, inclosing the

estate of Mr. Galway, of Tofts, near Thetford. The merit of this plantation justly belongs to Mr. Griffin, of Mundford, who advised Mr. Nelson, whose estate it was formerly, to this undertaking. It was planted with a variety of trees, at six feet apart, and cost ten pounds an acre. It was begun in 1770, and completed in 1778. It has been thinned several times; and the trees, if sold at this time, would be worth fifty pounds per acre. But the advantage it is to the rest of the estate, to say nothing of its ornament, is not to be described, as it affords shelter and warmth to cattle, which next to food, contribute to their health and thrift; so that the land is increased in value considerably. In short, if Mr. Galway would now line his belt with deciduous trees, such as birch, beech, and chesnut, to repel the wind, which now begins to draw through the bottom of the plantation, as it consists chiefly of firs, it would enhance the value of his estate a full third.

There is great advantage in planting a large body of wood in a naked country, which is not at first perceived. Where there is nothing to resist the cold winds, vegetation and cattle are cut to death, and nothing rich from the atmosphere can be retained. But plantations stop the rapid current of the air, collect a density which helps to enrich the surface of the earth; and, moreover, by giving warmth and comfort to cattle, half the fodder

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der will satisfy them; and by degrees, as the cattle couch under shelter, the soil by degrees improves. This is clear to demonstration, by taking a view of Lord Petre's park, which, in the midst of a barren, dreary country, forms an agreeable shady retreat, covered with a pleasant verdure, and richly ornamented with forest trees of large dimensions. His Lordship is now considerably extending his plantations, with great taste and success, to the open parts which lie on the outside of his estate.

There are two other plantations of a recent date, which are highly deserving of notice. The first is upon the estate of Sir William Jerningham, at Costesey, four miles from Norwich; the ground is beautifully varied, which is the more striking, as Norfolk is, in general, a remarkably flat country; and the river Wensum, which bounds one side of it, is another great natural addition to the place; but the plantations, which are large and flourishing, have been made by the worthy owner with so much judgment and true taste, that they afford the best lesson any modern improver or layer out of ground could advert to.

The other is upon the estate of Miss Norris, at Witton, quite in the face of the German ocean; which, by having been planted very thick, have, without any old trees to shelter them, so flourished, that, in the course of 22 years, it has, in one of
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the most cold and exposed situations in the kingdom, changed a considerable tract of naked land into an impervious woodland scene. For this embellishment, the estate and neighbourhood are indebted to the taste and perseverance of Mr. Ewen, who, though the plan was originally laid down by the late Mr. Norris, has paid such attention to the execution of it, and improved upon it, besides, so much, that I do not know of any estate having received greater benefit, in a minority, than this has done.

I wish to impress all men of fortune with the importance of extending their plantations to the distant parts of their estates, where soil and situation are suitable, and not merely content themselves with the environs of their own demesne: and that they may be informed how valuable the Spanish chesnut is above most other trees, I take the liberty, on this occasion, to refer them to a letter of mine upon that subject, published in the Transactions of the Society of Arts, Manufactures, and Commerce, for the year 1792 (d).

It is, in short, the oak's best substitute, and is a quick grower upon all loomy and clayey soils.— Lord Walpole has this year cut down several trees of this sort, which were transplanted in the year 1724, which measured, upon an average, 44 cubical feet. They were taken out of a grove merely for
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the purpose of thinning it, so that they were not the best of the trees; his Lordship cut down one of the same age which measured 74 feet.

Before I quit this subject, I will venture to recommend another tree to the attention of all planters upon poor light lands, which seems to exceed most others in growth. It is the tall straight-growing pinafter, which is frequently planted with Scotch firs; and, when they grow up together, by many incurious people, is taken for a Scotch fir. But I have always remarked its superiority of size when mixed with it, and of the same age. In short, it frequently grows as fast as an alder, or an ash, and therefore, if it be planted merely with a view of being cut down for fuel, it will be found a very profitable tree in many parts of England: but as it will grow to a very large size, it will, in my opinion, be found applicable to many useful purposes, as it admits of being cut into very large scantlings. As a decided proof of its advantage over the Scotch fir in growth, and consequently in value, I need only state, that about forty years since, his late Royal Highness William Duke of Cumberland made a plantation of nearly a hundred acres on a remarkably poor sandy land, adjoining to Bagshot Heath, in Surry, chiefly with Scotch firs, but with a smaller proportion of pinasters intermixed with them. The plantation is reckoned to have succeeded extremely well, and has been a great ornament

ment to the country; but the Scotch firs do not average more than five cubical feet, whilst the pinasters are full forty; some of them I have measured, and found to be upwards of seventy feet.

When new plantations are made, it is always best to make them in as large a body as the ground will admit of, and if there is time to clean the land well, I recommend such plantations to be made from seed in drills, rather than with seedlings, keeping the ground clean till the plants get high enough to protect themselves: but it sometimes happens that single trees are planted with propriety in parks and lawns, upon small swells and eminent spots, where a large plantation would be too heavy. In such cases it is a good practice to open a very large hole, at least six feet in diameter, and full eighteen inches deep, in the spring, and the ensuing winter put three or four plants of different sorts into each hole; guarding them with a triangle frame, which will be more durable than a square, and much cheaper than a circle; and, the stuff being found, this may be erected five feet high, with pales six inches apart, all workmanship and nails included, for 3s. 6d. each. The reason for putting four plants into a hole, is not only to have the greater chance of raising one good tree, but it will sometimes happen, that two or three of them will unite and mix their branches together, and form a most beautiful head of different tints, and by extending
their

their principal roots different ways, draw sufficient nourishment for a permanent support of their union.

I shall close my observations upon this interesting subject, with a word of advice, by way of guarding against a pernicious practice, which, though hitherto unknown in this county, has lately got some footing in it—I mean the infamous custom that prevails, in some counties, of pruning up trees, by divesting them of their lower or lateral branches. When a plant is very young, it is sometimes allowable, to a certain distance, but should always be done with great caution; but when trees have begun to form themselves, it is a sort of murder—it stops the growth, and produces extreme deformity; for the sap, in the spring of the year, being checked in its natural diffusion into the number of branches, into which it used to flow, becomes distorted

“As knots, by the conflux of meeting sap,
“Infect the sound pine, and divert his grain,
“Tortive and errant, from his course of growth.

“SHAKESPEARE.”

NOTES.

(a) Sir Thomas Beevor observes—"Where has it been found that firs and pines are best felled in the months of July and August? Since that practice is, here, too novel to have had its truth confirmed by experience. Is not the exudation of the sap of all trees, from its inspissation in the winter, less abundant, and the turpentine retained in these trees a preservative to them? Some trees taken down 7 or 8 years ago, at that season, by the writer of this note, give him reason to think the converse of Mr. Berney's proposition to be true."

(b) Mr. Dan has the following remark:—"Notwithstanding I applaud the motive, I doubt the propriety of this practice; conceiving that potatoes are injurious to young trees, from the injury I have experienced, when they have been planted amongst hops." I am, however, of a different opinion to Mr. Dan, and from considerable experience, I have observed, that potatoes keep the soil loose, moist, and clean from weeds, and do trees great service in their early stage.

(c) The following is Mr. James's remark, and breathes the true spirit of philanthropy:—"Here is an example worthy of general imitation.—Every man, in every situation in life, is placed within a certain sphere of action, and, whether it is extensive or confined, if he but does his duty, and embraces every opportunity, which presents itself, of doing good, the path of life would be deprived of its ruggedness; and if a cloud should now and then intervene between us and the sun-shine of our happiness, it would only serve as
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“a very useful monitor, by inducing us to reflect, upon the
“instability of our present situations. If we enjoy comforts,
“in preference to others, it behoves us to be grateful; and
“that lovely gratitude will be most acceptable to the benefi-
“cent author of them, which prompts their diffussion amongst
“our fellow creatures. Riches never were the object of my
“envy; but, in this point of view, they become so in the
“greatest degree.”

(d) Mr. Strachey having intimated a desire to have this
letter inserted here, I shall publish it in the Appendix.



Section XVII.

L I V E S T O C K .



THE horses, as I have before observed, are short, compact, active, and hardy; those of the original standing, and those with the Suffolk crosses, in my opinion, may be considered equally good; those which have the Lincolnshire crosses, as Mr. Marshall very properly intimates, are not so well adapted to the country.

The cows, which are natives, cannot be much admired; they are small, with turned-up horns, and generally of a red colour; but, of late years, the Suffolk polled cow, of the dun colour, is much introduced; it is not, indeed, quite so hardy, but, where the pasture is tolerably good, is certainly more profitable.

The old sort suit the cottager best, as they have little more to give them, than the run of the common; but those of the Suffolk kind are much the best

best for a farmer, not only as to produce, but as to the stock reared from them.

Oxen are very little used in this county for labour; in no instance, I believe, by farmers, and by very few gentlemen; but upon this subject, I shall have more to observe in another place.

The stock grazed or fatted, are about half Scotch, the one quarter Irish, and the other quarter what are called home-bred.

The first two sorts are generally purchased at St. Faith's, and other fairs, about Michaelmas; and, if they are in forward condition, one acre of turnips will put from five to six pounds profit upon an ox by Lady-day or May-day following. Those which are not so forward, are kept upon offal turnips in the winter, and fatted off in the marshes by harvest, when they sometimes double their price at market, within the year; but for a more particular account of the real profit of these cattle, I must refer my reader to a calculation upon them in the Appendix.

The home-breds were formerly not reckoned so profitable as the Scotch and Irish; but since the introduction of the Suffolk cow, their credit is much increased.—The average weight of a Scotch bullock, when fat, may be considered at 50 stone,
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of 14 lb. to the stone. I remember one, a few years since, of 80 stone, which was reckoned very large. I apprehend, that the home-breds may, in general, be made to average rather more, in weight, than the Scotch; and, to show what they may be brought to, I have authority to state, that Mr. Edward Betts, of Moulton, near Long Stratton, last year sold a five-year old bullock, of his own breeding, for £35, the weight of which was 99 stone, 6 lb. at 14 lb. to the stone, besides 15 stone, 8 lb. of fat.

The sheep come next under consideration; and here it is necessary to premise, that great part of this county is known to have been, within the space of a century, a wild, bleak, unproductive country, comparatively with what it now is; full half of it was rabbit-warrens and sheep-walks; the sheep were as natural to the soil as the rabbits, being hardy in their nature, and of an agile construction, so as to move over a great deal of space with little labour. When great tracts of this land were brought into a better state of cultivation, the Norfolk sheep gave great aid to the new improvement, as they fetched their sustenance from a considerable distance, and answered penning as well as any sheep whatever. Folding became in high estimation, and, aided by marling, brought the improvement of the country rapidly forward. Soon after, the turnip system followed, which enabled
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the farmer to improve his stock considerably by better keeping; so that, at this time, they are become respectable and profitable in their return, and in as high estimation, at Smithfield, as any sheep whatever, for no better mutton can be put upon a table; and though they produce but little wool, it is of good quality. Notwithstanding this, there are some gentlemen, and some considerable farmers too, who begin to dislike and despise them, and prefer the Lincoln and Leicester breed: but the Norfolk farmer will never be able to substitute any other sheep, that will answer penning so well (*a*) as the native sheep. The heavy Leicestershire sheep has not activity enough to move over a sufficiency of ground to get his living, and therefore can never answer folding; and if the great farmer gives up folding, he loses all his consequence, as he cannot keep his land so well by any other means (*b*), and commits upon himself, a sort of *felo de se*: therefore I would have him fully consider the value of this improvement, before he hastily adopts any other change of stock, lest, by so doing, the value of the fold be lost.

Some little reverence is due to what his forefathers and ancient custom have sanctioned; therefore, even under this consideration, he may, perhaps, do wrong in parting with the stock that has long been naturalized to the soil, till he can first
fully

fully satisfy himself, that the change will be permanently for his advantage.

Of late years, there has been a great rage for crossing the breed of cattle; and though improvement may have been effected by it, in some parts, it cannot be denied, but that it has done great injury in others.—In short, it should always be done with great caution, and, in general, it is best to keep each sort of cattle as distinct as possible in its kind, as every sort possesses some particular advantages: but when land becomes much improved, stock may be improved in proportion; and in some instances the breed may, undoubtedly, be crossed with propriety; but there ought always to be some affinity or similitude between the cattle which are crossed. It is a manifest incongruity to match a horned bull with a Suffolk polled cow; or a Norfolk and a Leicester sheep; or a Norfolk and a South Down; or any long wooled sheep with a short wooled; but a Leicestershire sheep may be matched, with some degree of propriety, with a Cotswold; and a South Down sheep with a Berkshire or a Herefordshire Ryland.

I allow, that in Marshland hundred, in gentlemen's parks, and in small rich inclosures, in the vicinity of towns, the Leicestershire sheep, which has been lately introduced into some parts of this county, will answer extremely well; but, to suppose

pose that the country would be benefited by their being introduced into all parts of it, to the entire exclusion of the native sheep, would be extremely absurd; for it is a matter of great doubt, whether the country would not be nearly ruined by it. The west end of it would certainly be most grievously injured; as a great number of what are now the finest farms, would unquestionably revert back to something like their pristine state. Indeed, it seems to me very strange, that the Norfolk sheep, which originally (before the introduction of turnips and artificial grasses) was the sole support of the Norfolk tillage, and has since borne its full proportion in all the modern improvements, should, at this time, so far lose its credit, as to admit of a doubt, with respect to its suitability to the soil, or its profit to the breeder.

Those who keep ewe flocks, find them answer extremely well; for, besides the fleece and manure, the average price of the lambs is, at this time, twelve shillings. Those who buy the wether lambs at that age, with a view of bringing them up for fatting stock, after keeping them eighteen or nineteen months, generally sell them at an average of thirty shillings, which may be considered as a very handsome profit, as they are only kept as store sheep the first twelve months, and when fatted, in general, an acre of turnips will do for eight; from

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which,

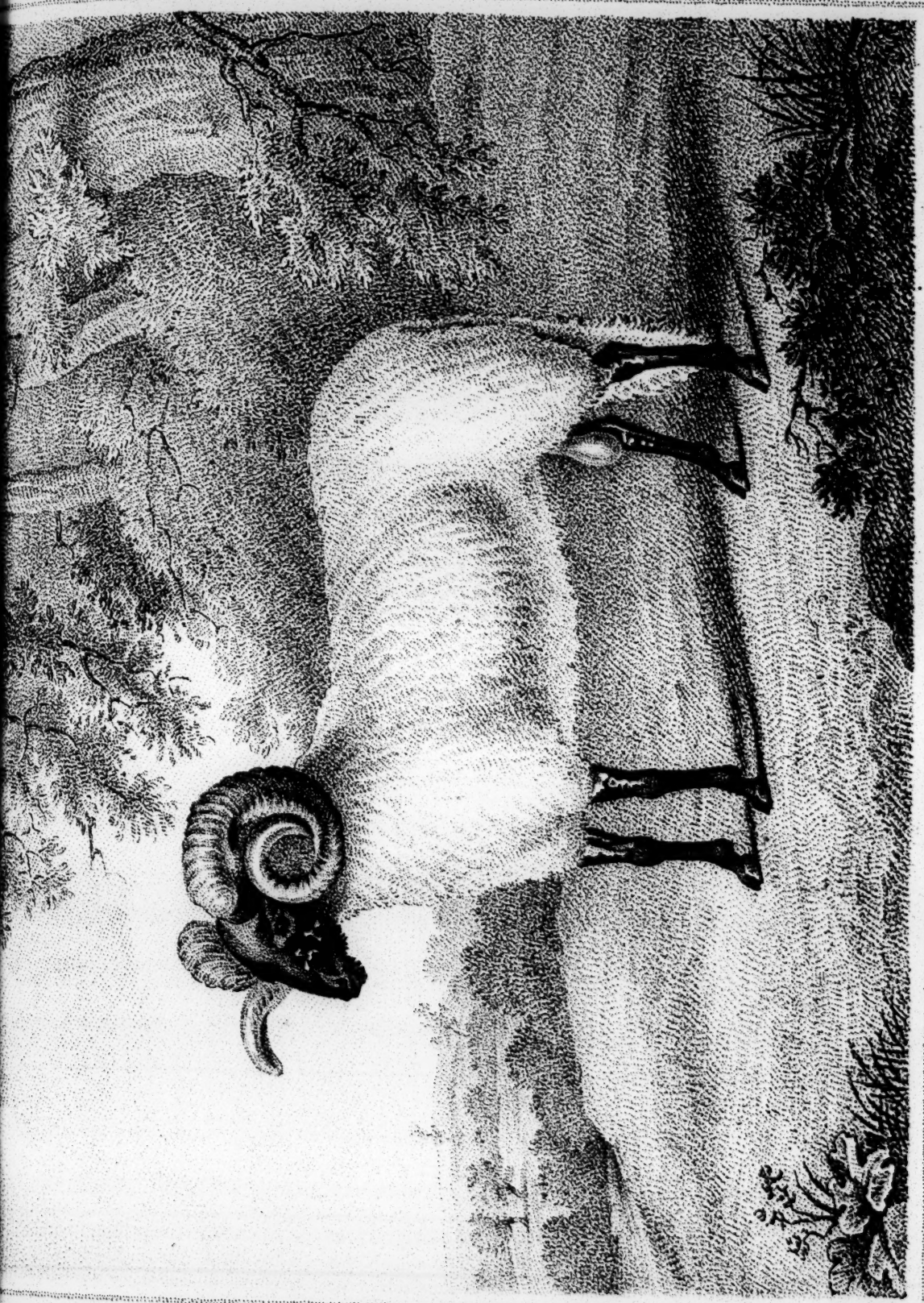
which, however, a deduction must be made of about ten sheep, out of a hundred, for casualty.

Mr. Purdy, of Egmere, a tenant of Thomas Wodehouse, Esq. whose stock is remarkably fine, sold a three-year old wether, of his own breeding, in Smithfield market, last February, for five guineas, which weighed 38 lb. a quarter, besides 30 lb. of loose fat—a painting of which, may be seen in the office of Kent, Claridge, and Pearce, in Craig's-court, London, and a print of the true Norfolk Ram, drawn from the breed of Mr. Barber, of Dunton, is here introduced.

The pigs are remarkably thin-haired and small, compared to the Hampshire breed, but very prolific, and the pork excellent; but the inhabitants have no idea of making bacon, farther than as to hams and cheeks, which, however, they prepare extremely well. The number of swine used to be very great, but is now somewhat less, on account of the decline of the dairies.

The poultry is superlatively good, especially the turkey, which has no equal, at least in flavour, which I attribute to the dryness of the soil, and to the greater range which they have more than in other counties; and the consumption is very great, as well at home, as in what is sent to London, and other parts.

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The pigeons are much fewer than formerly, as many of the pigeon-houses have been dropt, on account of the injury which the pigeons do to thatched buildings.

The decoys are but few to what they were formerly; but, as there are so many marshes, and several pieces of water called broads, it is presumed, that many of them might be revived to advantage, as wild-fowl is become more valuable since the communication to London is made easier and quicker, by means of the turnpike roads.

Rabbits are very numerous, as the warrens are not only very considerable, but many other parts are full of them, particularly near plantations, where they do great injury, and are very difficult to keep down.

The game is still in great plenty, though not equal to what it was formerly. Many of the gentlemen are too tenacious of it, which makes the farmer, its natural guardian, less careful to preserve it; and it is too often a source of discord in the county (c).

NOTES.

(a) Mr. Baillie asks, "Is Mr. Kent quite certain, that South Down, and some other kinds of sheep, will not fold or pen as well as the Norfolk?" In the cold climate of Norfolk, I do not believe they will, at least, they have not yet been fairly tried; and why should a thing that has been long found to answer the purpose intended, to the full extent of all reasonable advantage that can be expected from it, give way to hasty innovation. Let the gentlemen first try the experiment, and if, contrary to my opinion, it should be found to be an improvement, then let the farmer follow them: but I am too much the farmer's friend to wish to see him try expensive experiments, where the issue is doubtful.

I wish those gentlemen, who are so fond of changing the native stock, would advert to what Mr. Marshall very sensibly and justly says, upon this subject, in his Rural Economy of this county, pages 366 and 367. He asserts, with equal confidence and truth, "that a valuable breed of stock, adapted to a given soil and situation, is an acquisition of ages. That the Leicestershire sheep (though he highly commends them in their proper place) considered as a breed at large, for this county, are wholly unfit: they will not live, like the Norfolk sheep, on the heaths and open ground—will not stand the fold so well—will not travel so well to the London markets—or sell, when there, for so much a pound as the Norfolks," &c.

Mr. Dann likewise doubts "whether I have tried the South Downs." Certainly not—no one, as I have before observed, has yet fairly tried them, though I will frankly allow,

allow, that, next to the native sheep, they would do better in Norfolk than any other; for they are a hardy, and a very good and profitable sheep. All that I have contended for, is, that I do not see the necessity of a general change of the stock.

(b) Mr. Baillie remarks farther—"How do farmers pay their rents where no folding is practised, and where the land is as well cultivated, and the crops of turnips, &c. superior to Norfolk, and soil of no better quality? In an inclosed country, folding is a barbarous practice, and the time is not far distant when it will be totally abolished." I wish to know where this country is, that grows better turnips than in Norfolk, upon soil of equal quality? As to the latter part of this remark, I trust, I may venture to assert, that Mr. Baillie will not, in this case, prove a true prophet.

(c) The following remark is made by Mr. James:—"I confess myself averse to any system, which, like the game act, is likely to become a source of discord and contention. I don't know whether the intentional destruction by the farmer, owing to the restraint he is under, is not more than equal to what it might be, was this arbitrary act repealed."

Section XVIII.

BUILDINGS AND REPAIRS.

IT must not be expected, that in a treatise of this sort, I should enter into a description of the gentlemen's seats, which are in this county, though Holkham and Houghton are little short of palaces, and a vast many others are extremely splendid and commodious. This would be foreign to the design I have in view, which is merely to take into consideration, such buildings as are necessarily connected with agriculture.

This, however, is a consideration of the first magnitude.

That a farmer should have reasonable accommodation, cannot admit of a doubt; but it is highly improper that he should be indulged in unreasonable or unfuitable buildings.

Farm-buildings in this county are upon a very respectable footing, but, in my opinion, they are upon too large a scale.

Repairs

Repairs are chiefly done at the expence of the landlord, and the charge of them is very considerable, not less, as I have found by experience, than 10 *per cent.* including materials.

Farmers are very averse to stacking (*a*), though wheat is preserved sweeter and better on staddles than in barns; they are always crying out for barn room; and they certainly are indulged in a greater proportion of it, than farmers in any other county. It is not uncommon to have barns, upon 100*l.* a year, which cost 300*l.* there are many single barns that have been lately erected, which have cost considerably more than that sum; and some few farm-houses, upon farms of about 300*l.* a year, have cost 1000*l.* This is certainly wrong, for such buildings make a great waste of timber, and are unnecessary and, moreover, very bad examples, as one farmer will always covet a similar thing to what he sees his equal in possession of. I should much rather see a disposition in the country, to build a sufficient number of comfortable cottages, for the industrious labourers, than to run into an excess of indulgence, where no good purpose can be answered by it (*b*).

Having spoken of repairs in a general point of view, I will add a word or two respecting the materials.

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The old buildings were composed chiefly of clay, or laths and plaister; but all modern buildings are built with bricks, which are of a very good quality; but the lime is not so good from chalk and marl, as it is in countries where it is made from the stone.

The covering is of three kinds, Dutch tile generally for the houses, and the common pan-tiles for stables and barns, or sea or marsh reed, which is excellent in quality, and neatly put on. The general cost for reed and workmanship, and every thing complete, is a guinea a square. No covering is so good as this, as it will preserve a roof twice as long as tile.

Where straw is used for thatch, I earnestly recommend the excellent practice of the west of England, where the straw is combed quite clean of weeds, the ears of the corn cut off, and reed (as it is there called) laid on in whole pipes, unbruised by the flail.—The consequence is, that it is twice as durable, and, in its appearance, much neater.

Where new buildings are erected, it is essential to choose the most sheltered spot which can be pitched upon, consistent with the situation of the land, because it is prudent to guard against tempests,

pests, as much as possible, and, because young flock thrive much better in warm yards.

The following general rules, respecting new erections, may be worth observing.

Not to build any thing but what will be really useful. To build upon a small compact scale, and, as much as possible, upon squares or parallelograms; not in angles, or notches. To build, at all times, substantially, and with good materials. Not to lay any timber into fresh mortar, because the lime eats up and wastes the ends of it, long before the other parts decay; but to lay the ends into loam or clay. Not to put any window-frames or door-cases into new brick-work, at the time the walls are carried up; but to introduce a discharging-piece, or lintel, over such door and window spaces. The reason of the last caution is obvious; for as brick-work settles, soon after it is up, the window-frames and door-cases, on account of their strength, will not yield to it, but occasion cracks and flaws; but, when a lintel is made use of, the whole work settles regularly together, and door-cases and window-frames may be then introduced, with more propriety than before.

With respect to the timber most proper for building, I know of none that is to be preferred to Spanish chesnut, where it can be had, because

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it is very pleasant to work, and as durable as oak, though it seldom bears the price of it. (*See a letter, on this subject, in the Appendix.*) In a maritime county, like this, where oak fells well, and deals may be had cheaper than in the inland parts, it is adviseable, in many instances, to sell the one, and buy the other; as the one cuts to waste, and the other may be had in any scantlings required.

In all paling, battoning, and other fences about the homestead, nothing is more useful than pollards, and they should always be made use of on such occasions, because they are, generally, the produce of the farm, of little value, and save better timber. Sometimes they are useful in sheds, and small buildings for cattle.

All work, whether old or new, should be set, as much as possible, by the job, or great, for a fixed sum; always subject, however, to inspection, and approbation when finished.

In reparations, two points should be attended to, in preference to every other consideration. The one is, to keep all the ground-cills or foundations constantly tight, to prevent the wall or upper part of the building from warping, or getting out of its perpendicular; the other is, to keep the thatch or covering, at all times,
whole;

whole; to prevent wet from getting in to damage the timber.

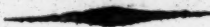
When buildings are very old, and in bad condition, it is better to pull them quite down, than to be at much expence in patching them.

Tenants ought to find straw for thatching, because it is the growth of the farm, and to carry all materials, for repairs, gratis; because their teams and carriages are ready on the spot, and they can often do it, at leisure intervals, without much inconvenience.

When farms are leased, the landlord generally engages to put them in repair, and the tenant to keep and leave them so. But estates, under this regulation, are very often neglected, for when the landlord is not called upon, it is very natural for him to be careless, and, at the expiration of the demise, there is often a heavy unexpected charge brought on, for want of a little timely attention; and it seldom happens that a landlord can prevail on the departing tenant, to be at much expence in making good defects, and it is very unpleasing to be obliged to compel him to do a thing by force. Constant attention not only reduces the expence of repairs, but brings them to a more regular and even charge. But, as no exertion or assiduity, whatever, in an owner or ste-

Section XIX.

IMPLEMENTS OF HUSBANDRY.



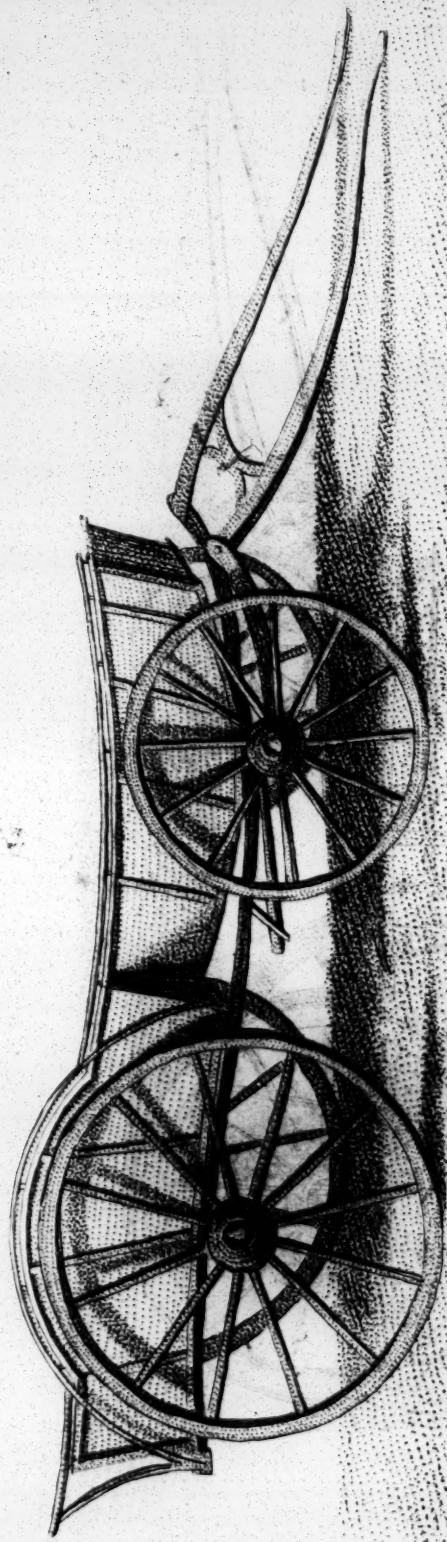
THE plough deserves the first notice, as it is compact and light in its construction, as will be hereafter shewn, does its work remarkably clean, and is easily managed with one handle (*a*). The harrows are no ways remarkable.

The waggon is remarkably heavy, which is the less necessary, as none of the roads are rocky. It has, however, one advantage in being made to lock so far under the bed, that it will turn as short as a post chaise (*b*).

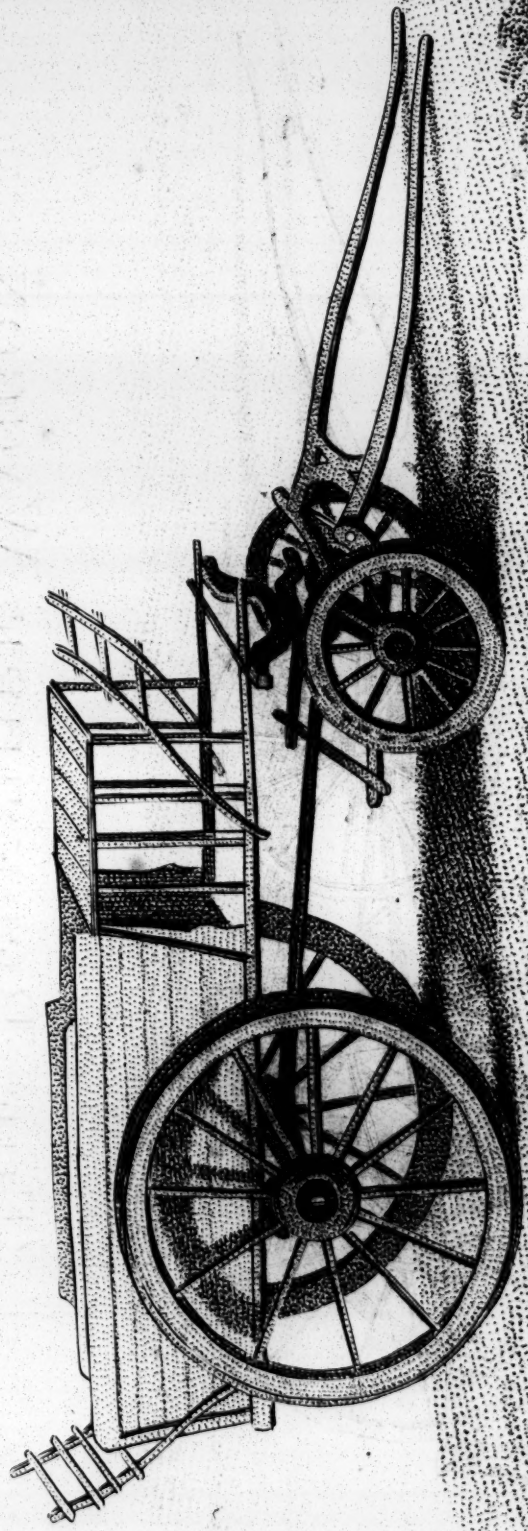
The cart is likewise heavier than is necessary; and three-wheeled tumbrels are seldom used, though they would often save thirty per cent. in the expence of marling.

There is one thing frequently practised in hay and corn harvest, which is, the adding a couple of temporary fore-wheels, over the shafts, and two oblique





THE BERKSHIRE WAGON.



THE NORFOLK HERMAPHRODITE.

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oblique ladders, a frame to the common carts, which answers the purpose of a waggon (*c*), and in little farms it is a real object of frugality, and in larger ones a great help in a busy season.—It is called an hermaphrodite, and I here subjoin a sketch of it.

The Berkshire waggon, of which I also subjoin a sketch, is what I recommend, above all others, to the attention of the Norfolk farmer, being a horse's draft lighter than his own, when loaded; being calculated to carry larger loads; and being much lower, which is a very great convenience.

Drill-rollers have lately been introduced, containing rings round the roller, at about ten inches distance from each other; these make drills in the land, and the middle part, between the drills, rising into a ridge, the corn, by this means, falls chiefly into the drills, and is better deposited, and better covered, than it would if sown at random upon the furrows; and, consequently, somewhat less seed does.

This is certainly a great improvement upon the broad-cast husbandry, but, notwithstanding, it is, in my opinion, vastly inferior to dibbling.

These rings were originally made with wood, and shod with iron; but they are now made very
neat,

neat, and sold very cheap, in cast-iron, at the Norwich Foundery.

There is also another instrument, just introduced into the Flegg hundreds, which is an iron bar fastened upon the plough-beam, and projecting out so as to be dragged by the plough along the middle of the last furrow, to that which is turning over; the end of the bar being cut into a sort of an edge, is loaded with weights to keep it down, and, by this means, makes a little dent which catches a great deal of corn, and what it does catch, is deposited (where land is only once ploughed) in the middle of the furrow, so that the seed, when it strikes root, has the benefit of the best part of the flag or inverted turf. This has not been much proved, but it promises to be of some benefit, and, I am inclined to think, it will be of most use in barley sowing.

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NOTES.

(a) Mr. Baillie calls it "an awkward complex implement, and what no person, that knows good ploughs, would commend or use on any account." This is a very harsh remark, and I trust he will here stand alone in his opinion.

(b) Mr. Alderman Partridge "thinks, that if the Berkshire waggon can be recommended for durability, as well as lightness, the Norfolk farmer cannot hesitate in adopting this proposal." I can assure Mr. Partridge, that it is infinitely more durable, from observations and enquiries that I have made in both the counties. If a carriage is made of good materials, and put together with symmetry, it is better, and will last longer, than it will made too strong and clumsy. A heavy carriage, like a great horse, is worn out by its own weight, more than by what it carries.

(c) Mr. Baillie further observes, "that the same number of horses, yoked in single carts, will carry more weight." Admitting this as a fact—a single cart will not admit of loading so long a load of hay or corn, in the straw, which is what I stated as the advantage of this carriage.

Section XX.

THE ADVANTAGE OF LEASES.

THE ancient feudal tenures had undoubtedly a strong tendency to enslave mankind, by subjecting tenants to the controul and power of an arbitrary lord; but, like all other things, there were some advantages to be found in the system. Every man, who held land, had a certainty in it, as the tenant generally held his possession for life. When these tenures were discountenanced, by the liberal spirit of modern law, some new compact became necessary, and terms of years were substituted in lieu of the former; for as land, properly managed, requires great expence, and seldom answers that expence in one year, it was but reasonable that the man, who applied his judgment, devoted his labour, and ventured his capital, should have some reasonable time allowed him to reimburse himself, and derive some proportionate reward for what he had done.

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In the course of time, this term began to be reduced into a regular number of years. As most of the land was formerly under the regulation of two crops and a fallow, the time allowed was from three to twenty-one years, and the latter, in the end, became the most general limitation, and is the most prevalent term for leases at this time (*a*).

That leases are the first, the greatest, and most rational encouragement that can be given to agriculture, admits not of a doubt, in my opinion; but, of late years, there are very strong prejudices entertained against them. In this county, it is rather the fashion to grant leases, which, in a great measure, accounts for the improvements that have taken place in it; most of the great estates have been made from it; for, without leases, no marling, to any extent, would have been undertaken, nor so much ground brought into cultivation, by one-third, as there now is. The Holkham estate, alone, strongly proves this assertion, as it has been increased, in the memory of man, from five to upwards of twenty thousand pounds a year, in this county only, and is still increasing like a snow ball. Mr. Coke (*b*), the present owner of it, is a real friend to agriculture, and justly considered as one of the best landlords in the county. From my particular knowledge of him, I can say, that at least two years before his leases expire, he puts the tenant upon a footing of certainty, by stating

to him, the terms he expects for a renewal of his lease, that he may have time to look out for another farm, in case he does not like the conditions that are offered to him; but, though the advance of rent is often very great, I have never seen an instance of any tenant leaving him, unless grown too far in years to be able to continue. The stipulations and reservations in his leases are founded, too, upon principles of equity, and consist in no unnecessary repetition, or unreasonable exactions, being couched in plain terms, such as ought to compose a liberal contract between a gentleman and an industrious tenant; which may be worth imitation, in those who are fond of crowding their leases with overbearing compulsory clauses, tending more to create obedience and fervility in their tenants, than to promote good husbandry (*c*). There are some few estates, in this county, of a very considerable size, where leases are entirely withheld; but it is evident, that these estates are obliged to be let for, at least, 20 per cent. less than what they would be, if leases were granted (*d*). In many other counties the prejudice is so strong, that an owner would almost as soon alienate the fee simple of his estate, as demise it for a term of years. I will not be so harsh as to say, that this dislike to leases arises from obstinacy or want of sense, but it is certainly an unfortunate prejudice, which the proprietor takes up, and tends greatly to injure the public. One of the arguments

arguments made use of is, that it makes the tenant insolent and independent. There may be some few instances of this sort, but they ought not to be allowed to operate to the general injury of a country, however indifferent a gentleman may be to the advantage of his own purse. A man of large landed property owes, in my opinion, something to society, and ought to get rid of his prejudices, where they affect the community (*e*). Providence, who put him in possession of his property, undoubtedly meant that he should in some sort act as a public steward, and it cannot be right that he should wrap up the talent entrusted to his care in a napkin. It grieves me to go into a country, which I often do, and find it almost in a state of nature, because, the soil being wet and expensive to cultivate, the tenant cannot afford to do it without encouragement, and the owner's insurmountable objection to leases, keeps him from granting the sort of encouragement which is essentially necessary. The yeomanry, in such parts, are upon a wretched miserable footing; the public sustains a vast loss; and the owner has, in lieu of the comfort he might bestow, and the good he might do, no other consolation than that he has the county more at command. But even this is a mistake; for I have, except in few instances, always found a tenant as obliging and well behaved to his landlord, when he had a lease as when he had not.

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The arguments in favour of leases seem to me so powerful, that I could not, on this occasion, suppress giving my full sentiments relating to them; and it seems unreasonable, to the greatest degree, to expect a tenant to hazard all he is worth, and devote the best part of his life, upon an estate, which, upon the death, or perhaps the mere caprice, of his landlord, he is liable to be turned out of at six months notice. I will not, however, deny, that there may be some reasonable exceptions against the practice I wish to recommend, where lands lie near a gentleman's house, part of which it may be an object to take into hand; or, if a minor be very near of age, or if there be any immediate design of selling an estate, it is not prudent to grant leases, because, in the latter case, a purchaser may wish to enter into immediate possession, and may have particular objects in view, which will induce him to give a higher price than he would, under the idea of purchasing merely to pay him a reasonable interest. But, except in these instances, leases, in my opinion, cannot be too strongly recommended; for I am certain, that where estates are under an entail, or in a family that has no idea of parting with them, leasing is, unquestionably, the most effectual means of raising their value, as the owner, by this means, has it in his power to stipulate for improvements, in what manner and proportion he pleases (*f*), which he cannot do by any other means so well.

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(a) Mr. James remarks, that “leases, most assuredly, may
“be granted, for too long a period, as the contrary. That
“just equilibrium of interest, which is so essential between
“the landlord and his tenant, would be in danger of being
“destroyed, by running into either extremes: if a lease is
“for a short period, the latter is without any stimulus to
“employ his capital in improvements of any kind, and it
“very frequently may prove a temptation to injure the farm,
“by with-holding even those which are absolutely necessary;
“on the other hand, if the lease is for too long a term, the
“tenant is likely to become too independent—twenty-
“one years I conceive to be the true medium. But that any
“should be mad enough, and so completely blinded to their
“own interest, and that of society, for a connection there
“certainly is, as I have before observed, not to grant any
“leases at all, is scarcely to be believed.—Trace this to its
“source, and you will discover it to proceed from prejudice,
“the legitimate child of ignorance and pride.”

(b) Mr. Baillie very properly observes here, “that Mr.
“Coke is one of the best friends to agriculture, in all its va-
“riations, that this island affords, and is deserving of being
“held out as a pattern.”

(c) Mr. Strachey thinks, “a full abstract or copy of one
“of these leases in the Appendix will be useful.” A short
abstract shall accordingly be inserted.

(d) Mr. Wagstaff says, “this doctrine of leases, with the
“subsequent remarks on their expediency, is founded on
“facts

“ facts not, I believe, to be overthrown, as, indeed, the possibilities, deduced from these facts, are warranted by reason, and are established on the basis of the facts themselves.”

(e) Mr. Dan says, “ I am glad to find, that my observations, stated in other Reports, on this important question, are sanctioned by this respectable reporter.”

(f) Mr. Baillie says, “ this is most liberal and excellent reasoning ; it is only in very few parts of this island, where we find good farming, except under long leases.”

Mr. Dan further observes, that “ these are such striking instances of the advantage to the landlord, by granting leases, that I hope they will have a proper effect on those who are prejudiced against the practice.”



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Section XXI.

THE SIZE OF FARMS CONSIDERED.



THE comparative produce of great and small farms, is a question of the greatest importance, that can come under the consideration of the Board of Agriculture, and is highly deserving of its most serious attention. It is a subject on which no person can stand neutral, but must take a decided part one way or another. Much has been said upon it, but very little proved—because it is very difficult to form calculations, that would be conclusive, unless real occupiers could be induced to lay open their profits and expenditure, which cannot be expected; it is therefore from observation and conjecture, that arguments *pro.* and *con.* can be deduced. It should, however, seem, even upon a slight consideration of the subject, that agriculture, when it is thrown into a number of hands, becomes the life of industry, the source of plenty, and the fountain of riches to a country; and that monopolized and grasped into a few hands, must dishearten the bulk of mankind, who,

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by this means, are obliged to labour for others, instead of themselves, must lessen the general produce, and greatly affect the community at large.

The arguments generally made use of in favour of large farms, are, that a great expence is saved in repairs and labour, particularly in doing the culture with a less number of horses; that a large capital in farming is as necessary, as in trade, for without a large capital, no considerable improvement can be undertaken or effected, nor a proper or suitable stock kept upon land; and, that as to corn, heavier crops are grown, by means of the land being better worked and manured.

The arguments for small farms, are, that they reward merit, encourage industry, fill the markets with plenty, increase population, and furnish the best class of men in all subordinate stations of life.

As to the first, respecting repairs, it must stand admitted; but, as an ample drawback from that advantage, the land is, in general, let, at least, 20 per cent. cheaper in large, than it is in small farms. As to its being done with less expence, that is, with a less number of horses, if that were a fact, it would certainly be a great advantage to the public, but, when the great farmer's riding horses, and, sometimes, other horses of pleasure and luxury,

ury, are added to those used upon the labour of a farm, no credit will be due to this assertion.

That a sufficient capital is as necessary in farming, as in any branch of commerce, must be allowed, but it does not hold good, that because a man has but a small capital, he ought not to be suffered to make use of it at all; such doctrine would be absurd, impolitic, and inhuman.

That a large capital is more equal to great improvements, than a small one, is self evident; but, except in some few instances, I cannot see why the latter should not keep pace, in a proportionate degree, at least, with the former. Respecting stock, no one can presume to say, that a little farmer can set a fold so well as a great farmer, but he generally keeps more milch cows, in proportion, than the latter, which makes ample amends to the public.

As to corn, I am not inclined, even in this instance, to allow, that better crops are grown by the great, than the small farmer, unless it be by means of the former having a sheep-walk, or some other similar advantage over the latter; upon this particular point, I shall refer to the comment of Mr. Cole, of Loddon (*a*).

So far, I have endeavoured to carry on a comparative statement between great and small farms,

as far as relates to a general answer to the common outlines of observation on them: but there are other remarks to be made, of great consideration—the first is, as to the effect they have upon society at large. Here, I believe, it will be pretty obvious, that if there were none but great farms, the common articles of consumption in every family would be so diminished, that the middling race of mankind would not be able to supply their tables, and the common labourer would be absolutely starved; for there would be no butter, cheese, pork, eggs, or poultry, to be bought, as great farmers raise no more of these articles than they require for their own consumption. At this very time, chiefly, I believe, from the great farmers dropping their dairies, the markets of Yarmouth and Norwich are so ill supplied with butter, that it is become a matter of favour to be able to obtain enough for common consumption, notwithstanding the price, within a very few years, is increased from 8d. to 16d. the pint, weighing 20 oz. And as to pigs, which diminish of course with the dairies, they are now become so dear, that those farmers who want them in lean, to slack their stubble, cannot buy them under half-a-guinea a stone (*b*).

If great farms only are to be encouraged, which seem to be the aim of some, husbandmen of small capitals, let them be ever so industrious, will be effectually cut off from the common means of raising

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raising themselves in life, as there will be no channel for their introduction. Population will likewise receive an irrecoverable blow from the suppression of those little hives of plenty (c). But most great farmers, and, I am afraid, some authors of eminence upon agriculture, and even upon population, may, perhaps, differ with me in opinion. I am not vain enough to suppose, that any thing I can say will alter their opinion, but, for the sake of the community, and the particular comfort of the middling and lower classes of society, I hope it may have some weight with gentlemen of landed estates, who are the natural guardians of the latter, and who would find their consequence much augmented, by a closer attention to the inferior husbandmen; and, I am greatly mistaken, if their fortunes would not likewise be improved by it.

The inhabitants of this county are naturally industrious, active, and persevering, and have certainly the merit of having brought thousands of acres into cultivation, which in any other part of England, except Suffolk, (where there is a congenial disposition) would have been despised, and suffered to lie in an unproductive state, which is a sufficient consideration to induce gentlemen of landed property to encourage as many hands as possible in such useful cultivation.

The complaint against great farms is not of any long standing—the evil (if I may be allowed to call

call it so) seems to have encreased in proportion to the decline of fairs and pitched markets. If it were the custom for the great farmer, as formerly, to bring his corn to the public market, as is still the case at Uxbridge, Newbury, and some other places, the home districts would never be short of corn; but while the great farmer and miller are allowed to settle large bargains, over a bottle of wine, in a private room, from the exhibition of a mere pocket sample, a country may at any time be kept in the dark, as to the real quantity of corn in it, and little farmers, by this means, must be quite ruined. I wish, therefore, to see fairs encouraged, and public markets revived: the last of which are all reduced, in this county, (as far as relates to corn) to sale by sample only.

But, after all, it is the excess of the grievance which I wish to correct.—The evil is now so great, that there are many farms of 1000l. a year, in this county, and Mr. North's farm at Rougham, was lately 1700l. but I have the satisfaction to be able to say, that he is now dividing it into four. The letting lands in such large farms, as this was, is evidently bad policy, if it were merely as to lessening the choice of tenants; for where they have one, in the present instance, capable of carrying on such farms, they would have twenty in the other.

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I will, however, admit, though I am an advocate for small farms, that, as the country is now situated, no farm should be under 30l. or 40l. a year, and even these should be dairy farms, nor would I have any arable farm under 50l. I will still go farther, and say, that the greatest number should be from 80l. a year to 150l. none ought to exceed 200l. where the land is of a good quality; or 500l. even upon the poorest land, where great farms, on account of a large flock of sheep, are most admissible. The greater the difference in their size, between the preceding extremes, perhaps, the better, as they will better play into each other's profits; some will raise cattle to more advantage than they can fat them, and others will fat them to more advantage than they can raise them.

I have made these remarks with freedom, but I trust, with temper and good manners to those of an opposite opinion, and shall be happy, if what I have advanced should have any effect upon those in whose power it lies to correct the grievance complained of.

NOTES.

N O T E S.

(a) Mr. Cole being asked his opinion upon this subject, in a letter to his friend, Mr. Ewen, writes thus ;—" I am of opinion, that three farms, in this neighbourhood, of 50l. 100l. and 150l. per ann. produce a larger quantity of corn, per acre, more cheese, butter, live and dead stock, for market, than one farm of 300l.

(b) In my former report, where I state the injury of great farms to society, Mr. Howlett has this remark :—" Notwithstanding what is here intimated, the reasonings of Mr. Arthur Young, Lord Sheffield, and some others, on the opposite side, seem to me unanswered." I thought it right not to suppress this remark, though it does not make for my argument, as I notice three other commentators whose observations do make for it.

(c) Mr. James very justly observes, " that lately the enlargement of the farms, or the concentrating small farms into one, is so severe a blow upon population, that I may venture to hazard an opinion, that if this growing evil is not very soon corrected, the most certain method of calculating the population, will be by the poor's rates." And further observes, in answer to the argument set up in favour of great farms, from land being poor, " that he knows no better method of amending such poor land, than by enriching it with industrious inhabitants."

Mr.

Mr. Wagstaff likewise, upon this important subject, embraces the same idea ; he is pleased to allow, that my remark is "incontrovertibly just, and amounts to a proof, that subdivided farms increase the people, which accession of numbers becomes national riches, where employ is at hand, and it is capable of evidence, that fifty acres of land, under an industrious occupier, supply more to the mass of general provisions, in proportion to his occupation, than the occupier of one thousand acres:"—and, in another place, he thinks, that if the complaint was remedied, "it would be ultimately advantageous to the lord, his tenants, and their common country."



Section XXII.

THE ADVANTAGE OF WORKING OXEN.



NEXT to the recommendation of the best modes of culture, the cheapest means of effecting it, deserve our attention, and, lastly, frugality in the consumption of the produce.

If it is a fact, which cannot be disproved, that oxen, in some sort of work, are equal to horses, in these cases, they certainly ought to be preferred, because they are kept at considerably less expence, and less casualty attends them. It would evidently be very much for the advantage of this country, if oxen were in higher estimation than they are: upon every farm where three teams are kept, one of them, at least, ought to be an ox team; for though oxen would not, perhaps, entirely answer the end, to the total exclusion of horses, there is, undoubtedly, a great deal of work that they would, as before observed, do as well, particularly in carting and all heavy work. In most instances, they
are

are nearly equal to horses, and, in their support, they are full thirty per cent. cheaper. At present no farmers use them in Norfolk; but Mr. Coke, Mr. Colhoun, and some few other gentlemen, occasionally do, and I hope their example, ere long, will be followed by the farmers in general. It was with infinite satisfaction, that I some time since learnt, that Lord Hawke, whose experiments in husbandry are very extensive in Yorkshire, has there set an example of ploughing with two oxen to a plough only, which is attended with complete success, as they plough nearly as much as an equal number of horses, and if the cheapness of their keep, and other circumstances in their favour, are considered, they are certainly preferable to horses. There is, in this country, a strong prejudice against this generous animal, which is the first thing to get over—when that can be removed, the credit of the ox will soon follow.

The principal advantage which the farmer would derive from oxen, is in the moderate expence of their keep, and in their being attended, as I have before observed, with less risk.

The best way is, however, not to over-work them, for in that case, they will require rather more hay than a horse, and half as much corn, and if they are suffered to fall into low condition, it will require considerable expence and time to get them up again.

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The plan that I have found to answer best, is this, suppose four were called a team, which, in this county, would be enough, and that one man was appointed to attend them; I would advise six, instead of four, to be the team, as one man might attend them at the same expence as four, but I would only work four of them at a time, and let two of them rest two days out of the six, by which means, they would, in fact, work only four days out of the seven. In the summer months they should have a leasow or pasture to run in, where there is plenty of water and an open shed, where they should have a bait, the day they were worked, of green vetches, cut grass, or any thing the farm might furnish. In the winter, they should be kept in a yard, with the same sort of shed for them to run into at pleasure, and here they should have plenty of barley or oat straw, and offal turnips, and in the days of working, cut hay and straw, mixed in equal proportions, instead of straw, and turnips besides. In this manner, they will, in general, do extremely well, and will, at all events, earn as much as the value of their keep, so that their work will be had for nothing. Another great advantage is, that in case of falling lame, there is no diminution, by that means, in their value, for if their shoulders do not return a profit, their ribs will; but if a horse falls lame, at least, half his value is lost. So far I have described the advantage of the ox to his employer—
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but to the public, the advantage is superlatively striking.—The ox, when labouring, does not consume so much corn as the horse, for, according to my plan, he would not consume any; and when his labour is done, his body goes to the nourishment of men—but the body of the other is good for nothing but to feed dogs.

The more the number of horses can be lessened, the better for all ranks of people. The consumption by horses, especially horses of pleasure, and luxury, is astonishing; for though a horse in agriculture, does not consume above three acres of the fruits of the earth in a year, a horse kept upon the road, eats yearly, in hay and oats, the full produce of five acres of land. A man, allowing him a pound of bread, and a pound of meat a day, or in that proportion, not quite an acre and a quarter; and as the poor eat but very little meat, it cannot be put at more than an acre to them: so that one of those horses eats nearly as much as five men. The more, therefore, we reduce our number of horses, the more plentiful will be the fruits of the earth for man. Under this idea, perhaps, the tax upon horses of pleasure and luxury may be a real advantage to the community. Let any person but consider how these horses sweep off the produce of the earth: I am told, and I believe, from good authority, that in the city of Norwich, not quite fifty years since, there were only twelve carriages

riages of pleasure and luxury, and that there are now seventy-two, including post-chaifes, and thirteen hackney coaches besides; and if we allow three horses to each carriage, upon an average, allowing for change, this will make a difference of 219 horses in the city of Norwich only. At that time, there was only one coach to London; now there are two mail coaches, and two heavy coaches; and, as there cannot be allowed less than sixty horses to each mail coach, and fifty to each of the others, this makes an increase of 170 horses more.—There is also a coach to Lynn, and another to Yarmouth, which cannot take less than twenty horses more—here then is a difference, upon a round calculation, of 409 additional horses, in what affects Norwich only; which, at five acres to a horse, consume the additional produce of 2045 acres. If this mode of calculation be extended to other towns in the county, it will amount to a very great number of acres, in the aggregate, and multiplied by a similar increase in all other parts of England, will shew, that one great cause of the dearness of provisions, is owing to the number of horses which are kept more than formerly.

Section XXIII.

COMMERCE; OR A STATEMENT
OF EXPORTS.

THE credit of a country is usually considered in proportion to its general produce. If its agriculture does not produce more, in the whole, than what is sufficient to support itself, and its own rural trades, it must evidently be *minus* in the common scale of production; because every country must at least look for assistance from some clothing manufactory, though foreign luxuries were totally out of the question. But if the husbandry of any particular district can support itself and its local trades, and furnish half as much as it consumes, either to encourage manufactures at home, or to supply foreign markets, it may fairly be denominated a good country.

That Norfolk will stand eminently high in reputation, when viewed in this light, will not admit of a doubt from any person who is sufficiently acquainted

acquainted with its powers. But as speculations of this sort may be new to many persons who may peruse these remarks, I shall endeavour to explain through what channels this great abundance swells to such a head, that imitation may secure the same advantages, where congeniality of circumstances will admit of it.

In a good corn year, when there is a free exportation, it has been said, that the four Norfolk ports export as much corn as all the rest of England; which I believe to be true, for it is seldom less than a million sterling in value, and often more; and though some of the corn comes down the Waveney out of Suffolk, and some down the Ouze from two or three of the midland counties, this addition seldom bears the proportion of more than an eighth part of the Yarmouth export, and a third of the Lynn, which is not more than a tenth upon the whole.

The following is the nearest calculation I can make of the usual excess of corn, and other articles of provision, sent yearly out of the county, after reserving not only a sufficiency for its people employed in agriculture, but for fifty thousand home manufacturers, and six thousand seamen.

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The corn I am able to state with accuracy, as I have obtained it from the Custom-house books, where the quantity exported is registered (*a*). The cattle I cannot be so confident of; but I have taken all the pains in my power to glean up the best information that could be obtained; and where I have deduced any thing from comparison, I have taken care to be within the limits of justification. The bridges of St. Germain and Magdalen, ascertain, in some degree, the number of Scotch and Irish cattle brought into the county; and the turnpikes leading out of the county, together with the assistance which I have had from Mr. Archer, and other intelligent salesmen at Smithfield and St. Ives, enable me to come pretty near to what I conceive to be the truth.

Last year there were actually 20,594 fat bullocks, brought from Norfolk to Smithfield and Islington, and about 3000 to St. Ives and other places; but, either from the war or some other cause, this is considered rather as a larger supply than usual; but they may be safely taken at 20,000 as a yearly average, about one-quarter of which are home-bred beasts, and the remainder Scotch and Irish. The sheep are supposed to be upwards of 30,000; at least they may be safely taken at that number. Objects, such as swine, butter, rabbits, poultry, &c. are not of so much consequence, but suffice it, that they shall all be moderately estimated.

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The return from the Norwich manufactory, I shall not include in my aggregate, as there is a great importation of coarse wool, to support it, from Lincolnshire and other parts: nor shall I set any value upon the whale or mackerel fisheries, as they are very precarious; but as the herring fishery is a permanent, though also a variable branch of provincial profit, and is wholly fed and supported by the county, I think it fair to include it.

In short, manufactures are to be considered as an object deserving a separate investigation. But they are, undoubtedly, more deserving of encouragement in a productive, than a sterile country; especially where the industry of the inhabitants is singularly meritorious, as is the case at Norwich, where new objects of manufacture have recently been introduced, since the woollen has declined; but still it would be better if the manufactory, which has been so long familiar to the city, could be encouraged, so as to regain its former splendour and extent, which, it is supposed, might be the case, if, through the assistance of Government, a free communication could be opened with China, where, if I am rightly informed, the Norwich goods are in a considerable degree of credit (*b*).

I shall begin my recapitulation with the corn, which is to be considered as *the yearly average* which

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Wheat,
Wheat
Barley,
Malt,
Rye,
Pease,
Beans,

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which has been exported to foreign parts and coastways, for the last three years, which were far from being prime ones.

The excess of each species of grain, after deducting an equal quantity to balance what is occasionally imported, and also an eighth part from the port of Yarmouth, upon all grain for the supposed proportion furnished by Suffolk, and a third from Lynn, (upon all, except barley) supposed to come down the Ouze out of the midland counties. But, it is conjectured, as much barley goes up the Ouze as comes down it. Premising this, the account will stand thus:

FROM YARMOUTH.

	Quarters.	Pr. per Qr. at			Amount.			Tot. of Exports.		
		£.	s.	d.	£.	s.	d.	£.	s.	d.
Wheat, . . .	22466	2	4	0	49425	4	0			
Wheat Flour, . . .	30578	2	16	0	85618	8	0			
Barley, . . .	129884	1	4	0	155860	16	0			
Malt, . . .	66579	2	0	0	133158	0	0			
Rye, . . .	1315	1	5	0	1643	15	0			
Pease, . . .	6116	1	8	0	8562	8	0			
Beans, . . .	10440	1	4	0	12528	0	0			
					446796	11	0			
From which take, for 7479 quarters of oats imported more than were exported, at 17s. a quarter, . . .					6356	3	0			
Neat exports from Yarmouth,					440440	8	0			

FROM LYNN.

	Quarters.	Pr. per Qr. at			Amount.			Tot. of Exports.		
		£.	s.	d.	£.	s.	d.	£.	s.	d.
Wheat, . . .	30016	2	4	0	66035	4	0			
Wheat Flour, . . .	3138	2	16	0	8786	8	0			
Barley, . . .	112944	1	4	0	135532	16	0			
Malt, . . .	10703	2	0	0	21406	0	0			
Rye, . . .	12298	1	5	0	15372	10	0			
Pease, . . .	3855	1	8	0	5397	0	0			
Beans, . . .	4708	1	4	0	5649	12	0			
Vetches, . . .	73	1	10	0	109	10	0			
Rape Seed, . . .	2423	1	16	0	4361	8	0			
					262650	8	0			

From which take, for 4993 quarters
of oats imported more than were
exported, at 17s. a quarter, . . . 4244 1 0

The neat exports from Lynn, 258406 7 0

N. B. The excess of linseed imported, is about
equal to the mustard seed exported.

FROM WELLS.

	Quarters.	Pr. per Qr. at			Amount.		
		£.	s.	d.	£.	s.	d.
Wheat, . . .	4186	2	4	0	9209	4	0
Wheat Flour, . . .	2634	2	16	0	7375	4	0
Barley, . . .	58376	1	4	0	70051	4	0
Malt, . . .	10464	2	0	0	20928	0	0
Rye, . . .	397	1	5	0	496	5	0
Pease, . . .	2150	1	8	0	3010	0	0
					111069	17	0

From which take, for 2553 quarters
of oats imported over and above
the quantity exported, at 17s. . . 2170 1 0

Neat exports from Wells, 108899 16 0

FROM

FROM BLACKENY AND CLAY.

Quarters.	Pr. per Qr. at	Amount.	Tot. of Exports.
	£. s. d.	£. s. d.	£. s. d.
Wheat, 6378	2 4 0	14031 12 0	
Wheat Flour, . . 785	2 16 0	2198 0 0	
Barley, 59176	1 4 0	71011 4 0	
Malt, 2525	2 0 0	5050 0 0	
Rye, 46	1 5 0	57 10 0	
Peale, 1240	1 8 0	1736 0 0	
		94084 6 0	
From which take the excess of 364 quarters of oats imported, at 17s. a quarter, 309 8 0			
Neat exports of Blackeney and Clay,		93774 18 0	
Total amount of the whole county, after deducting for the Suffolk and midland proportion		901521 9 0	

CATTLE.

	£. s. d.	£. s. d.
5000 home-bred bullocks, at 10l.	50000 0 0	
15,000 Scotch and Irish, the fattening pro- fit which may be set at 5l. each,	75000 0 0	
30,000 sheep, at 1l. 10s.	45000 0 0	
Swine, not less than	10000 0 0	
Rabbits, at least	10000 0 0	
Dairy articles, about	80000 0 0	
Poultry and game,	3000 0 0	
Wool, conjectured to be about	20000 0 0	
The herrings exported,	50000 0 0	
50,000 lambs, at 12s.	30000 0 0	
Add, for corn, grain, flour, &c. as before stated, . .	373000 0 0	
	901521 9 0	
Total yearly produce sent out of the county,	1274521 9 0	

I have

I have purposely brought the whole into money, with a view of shewing with the greater ease, what number of persons this extra, or superabundant produce is equal to the support of. And if we apportion ten pounds for the sustenance of a human being, one with another, which must be acknowledged to be a liberal allowance, where luxuries are excluded, it will appear, that this county sends out a foreign supply for upwards of 127000 persons. And if we take the 56,000 employed in the home manufactures and navigation, from the whole population of the county, it will shew, that the county furnishes more than a sufficiency for double the number of persons employed in agriculture and its appendant trades.

Every impartial man, who considers this vast produce, must be struck with astonishment; and as Norfolk is far from being naturally a good country, it must, undoubtedly, be to art and industry, that this great source of treasure is to be ascribed. It is evidently so great, that no part of England, not even the famous vales of Taunton, White Horse, or Evesham, are supposed to exceed it in proportion of corn.

Government must certainly draw from this county a much greater portion of revenue, than from any other; for as nearly one-third part of all the arable land is sown with barley every year,
and

and as the barley crop is generally very good, (half of it being sown upon clean land after turnips) the return which it must make, when traced through the malt-house, brew-house, and distillery, will be found to amount to a sum almost incredible.

I do not exhibit this statement as a panegyric on the county; but to point out to the Board of Agriculture, how beneficial this kind of husbandry is above all others; not only to the individual, but to the public revenue: a most powerful argument this, for Government to give all possible encouragement to inclosures in general; and a grand inducement for other countries to follow the like course of husbandry, wherever the soil will admit of it.

NOTES.

NOTES.

(a) Lord Roseberry has the following remark :—“ Where
“ duties are not to be paid, the Custom-house books are not a
“ rule to judge by, as every exporter enters, at random, any
“ quantity he pleases, and always more than he is likely to
“ export, to prevent the trouble and expence of a second en-
“ try, there being no necessity or obligation for entering the
“ exact quantity they are to export. The debentures being
“ given on corn afterwards, on the real quantity shipped;
“ and it is from the register of the entries only, however,
“ that this calculation is made, or even the reports to parlia-
“ ment, which make them very fallacious, and this members
“ of parliament should advert to.” How far this may affect my
calculation, I cannot presume to say : I have given my state-
ment, on the best information I could obtain, and flatter my-
self, at least, that it is not far from the truth.

(b) Mr. Alderman Partridge, in remarking, in an other
place, upon the trade of Norwich, “ hopes the decline of the
“ trade of Norwich is but temporary.” I trust so too, and
that it will revive and become prosperous again.

Section XXIV.

GENERAL OUTGOINGS.



UNDER this head, I shall not take notice of the common expences of cultivation by cattle, or labour by man, as these are charges which every situation is alike subject to, save as to the difference in soil, and distance from markets, &c. but shall confine myself to the two great objects which affect landed estates in general, namely, tythes and poor-rates.

As to tythes, the subject is so delicate, that great caution ought to be observed in treating of it. In the first place, the permanency of the title rests upon the same basis as all other estates in the kingdom; therefore, nothing can be so idle as half the schemes which are talked of for fresh regulations of it. Whatever is done, must be brought about by general concurrence and amicable agreement.

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The clergy, it is well known, are not possessed of all the tythes in England, perhaps, one-fourth of the corn tythes are in the hands of lay-impropriators, and, to confess the truth, I have never found the former more exacting than the latter; therefore it is wrong to impress farmers with an idea, that if they could get rid of tythes, they would have their land the cheaper; on the contrary, every farmer, before he takes a farm, ought to consider, that the land he treats for is liable to such an outgoing, and should make a reserve in his estimate accordingly, which he does not always do, and by that means farmers sometimes deceive themselves, and when a new clergyman comes and proposes an alteration, whether it is reasonable or not, they set their faces against complying with it, and discord takes place in the parish.

As to the general scale upon which tythes are let in this country, I do not think it can be said, that they are exorbitantly high; I believe the highest price, for all tythes, is five shillings an acre, upon the very best arable land, and two shillings upon the best meadows and pasture, at least it is so, with very few exceptions. The more general composition is three shillings and sixpence an acre, for the arable, and one shilling and sixpence for the grass.—In the very light parts of the county, it is two shillings an acre, for the former, and ninepence for the latter; and there is hardly

hardly an instance, in fifty parishes, of tythes being set out, or taken up in kind.

Yet, after all, it is a most unpopular estate, and highly discouraging to all new improvements in particular, because, in this instance, these undertakings cannot be effected without a very considerable expence, and a certain share of risk, which the adventurer must be subject to, before he can derive any kind of benefit from his undertaking; but the tythe owner, in this case, comes into his estate without any of this charge or inconvenience.—It is in this light, that tythes are grievous, and want better regulation; and, therefore, if a general cultivation should take place, of the commons and waste lands, it is to be hoped the wisdom of the legislature will be able to adopt some regulations, even with the concurrence of the clergy, which may afford greater encouragement than is now the case. The exemption of three years, after waste land is first broken up, is evidently too short, and should, at least, be extended to seven. As to the total extinction of tythes, though, perhaps, it might, and, I dare say, would be a great comfort to the clergy, and of great service to religion, yet, I doubt, it would be extremely difficult to settle such a proper equivalent as should keep pace with the times. It could not be, I presume, done in any other way, than by reserving a corn

rent, or a certain sum of money, to fluctuate in proportion to the general scale of provisions.

Poor-rates, which no longer back than twenty years, were so light, that a farmer, when he went to take a farm, hardly thought it worth while to enquire the amount of it; but now it is become the first question he must ask.

The causes of the astonishing increase of these rates, it is presumed, will chiefly be found in the rise of provisions, beyond the proportional rise in the price of labour. There may be some other causes, but this is the chief.

When this great alteration first began to be felt, the Houses of Industry, of which there are several in this county, took their rise, and, for a time, there was great expectation of advantage from them, but I am informed, that some of them, at least, have been for some time upon the decline, and this last year of scarcity, they are *minus* in their accounts, so that, it is to be feared, they will not answer the end that was expected from them. The grievance, therefore, in and out of the houses, is become of a most serious nature; there are few parishes now, that pay less than five or six shillings in the pound, upon the rack-rents. In the parish of Hevingham, where I reside, they are nine shillings in the pound; in the parish of Bux-

ton,

ton, on one side of me, they are ten; and in the parish of Marsham, on the other side, they are sixteen; so that, in the latter place, more is paid to support the poor, than the landlords put in their pockets: for, after they have paid land-tax, and kept their buildings in repair, they do not get above fifteen shillings. The obvious consequence of this is, that where an acre of land would be worth twenty shillings, if there were no poor rates, it can only be worth ten shillings subject to them.

There is one material reason, however, to be assigned why the poor rates are so very high in the parish of Marsham, and many other parishes, not far distant from Norwich. In the year 1712, an act of parliament passed, for regulating the workhouses in that city, in which act, there is a clause which prevents any apprentice, taken from any country village, from gaining any settlement in Norwich.—This was evidently done to encourage the manufactory, when it was upon a prosperous and flourishing footing—but it has had a cruel effect upon the parishes, which, originally, furnished the city with these apprentices; many of them married in Norwich and elsewhere, and, upon the decline of the trade, the city preferring its own poor, these strangers, for want of work, were obliged to return to their original place of residence, and many of them brought

brought with them large families. This seems to prove the necessity and propriety of taxing trade, when it is flourishing, to provide a fund for its poor, when it declines.

There is another observation which I have made, which is, that the larger the common, the greater number, and the more miserable are the poor.

In the parishes of Horsford, Hevingham, and Marsham, which link into each other, from four to nine miles from Norwich, there are not less than 3000 acres of waste land, and yet the average of the rates are, at least, ten shillings in the pound.—This shews the absolute necessity of doing something with these lands, or these, uncultivated, will utterly ruin the cultivated parts; for these mistaken people place a fallacious dependence upon these precarious commons, and do not trust to the returns of regular labour, which would be, by far, a better support to them.

Section XXV.

RURAL ŒCONOMY.



I shall chiefly confine what I have to offer under this head, to the price of agricultural labour.

Some little difference is found in different parts of the county, but the following is the nearest general average that can be offered:

Yearly Wages.

A head carter—nine to ten guineas.

An under carter, or lad—five to seven guineas.

A shepherd—about ten pounds.

A yard man—about eight pounds.

A dairy or house maid—four guineas.

Daily Wages

Of a labourer, till within a few years, was 14d. in summer, and 1s. in winter, but they are now increased,

creased, in most parts of the county, to 18d. in summer, and 14d. in winter.—Carpenters, thatchers, and bricklayers—20d. a day.

Seeding.

DIBBLING.—Wheat, 10s. and pease, 8s. per acre.

SETTING.—Beans, 4s. 6d. and potatoes, 8s. per acre, including cutting of them.

Haymaking.

MOWING.—One shilling to 1s. 6d. per acre, according to the crop.

MAKING HAY by men, 1s. 6d. a day; women, girls, and lads, 6d. and three pints of beer.

Turnips.

HOEING.—Six shillings, per acre, for hoeing twice in a masterly manner.

Harvesting.

REAPING and binding wheat, 5s. to 7s. per acre.

MOWING barley or oats, 2s. to 2s. 6d. per acre.

GATHERING

GATHERING in heaps, with shack-forks, 6d. an acre—with hand-rakes, 8d.

DRAG-RAKING. Two-pence an acre.

STACKING PEASE.—Four shillings an acre.

HARVEST WAGES.—For a man, the whole season, being well fed and allowed six pints of beer a day, 2l. 2s. to 2l. 10s.

Chaff-cutting.

Three farthings the heaped bushel.

Threshing.

WHEAT.—Two shillings a quarter (*a*), and two pints of beer per day.

BARLEY, OATS, and BUCK.—One shilling a quarter, and the same allowance of beer.

PEASE.—Sixteen pence a quarter, and beer, as before.

CLOVER SEED.—Five shillings a bushel, and beer, as before.

Manuring.

MARL.—Digging rather uncertain, on account of depth, but, in general, from 6d. to 2s. 6d. a cart load, of six heaps to a load.

Filling and spreading, $1\frac{1}{2}$ d. for the first, and 1d. for the last, per load.

X

DUNG.

DUNG.—Filling and spreading, at the same prices as the marl—but here, 8 heaps go to the load.

Fencing.

NEW BANK and DITCH.—One shilling to 1s 6d. per rod, of seventy yards, according to the soil. The ditch, four feet wide on top, and three feet deep, properly sloped, with a bank seven feet high, from the bottom of the ditch, including the setting of the quick-sets, and making a dwarf hedge of thorns on top of the bank and backing up the same.

OLD BANKS REPAIRED.—Cutting off the thorns, cleaning the ditch, and effectually repairing the bank, the same price as for the new work.

LOPPING and FAGGOTING.—Heading pollards, and converting the wood into faggots and round wood, 3s. for 120 faggots, and 1s. for a waggon load of round wood.

Converting thorns into faggots, 3s. for 120.

Draining.

Making open drains, of two feet wide and two feet deep, 3d. a rod, of seven yards.

Larger drains, serving as fences, nine feet wide and six feet deep, 2s. 6d. a rod.

HOLLOW DRAINING, 4d. a rod.

Thatching.

Thatching

With sea or marsh reed, all materials being found,
4s. 2d. a square.

Buildings with straw, all materials being found,
the same as before.

Corn and hay stacks, at 5d. a yard, in length,
taking in both sides.

Sheep

Washed and clipped for 16d. per score.

Besides the above mentioned work, many extra jobs are done by the great, which is always the most pleasant contract between master and man.

For the price of provisions, taken before the late extraordinary rise, *see under the head of Markets.*

This scale of wages, and price of labour, may do for a man with only one or two children, but if he has more, it is evidently not sufficient, according to the present rate of provisions; for in the houses of industry, where every species of œconomy is observed, and where they have the advantage of boarding a great number together, and buying in their provisions at best hand, the mere

eating and drinking, alone, costs 18d. per head, which I have authority to state from Sir Edmund Bacon, who shewed me the account of their expenditure, and whose attention to these institutions, is distinguished by every species of humanity and benevolence that is in his power to bestow. Therefore, as a cottager must purchase his comforts at a great discount, it is clear, that when his family exceeds what I state, he must have considerable help, let him be ever so industrious.  See a word more upon this subject under the head of General Observations.



NOTES.

NOTES.

(a) Mr. Howlett remarks—"Thus to fix the price of threshing, appears extremely absurd; a labourer in threshing wheat of the produce of 1793, could make better earnings at 2s. a quarter, than in threshing that of 1792, at 2s. 6d. and of barley in 1793, at 1s. a quarter, than in 1792, at 15d. or, perhaps, even 18d.—It would surely have been a most useful information to have been told, what has been the increase of the price of labour during the last forty or fifty years, and what the advance in the price of necessary provisions. This done, for every county, would be of the highest importance. This has been done for a considerable part of Scotland, in Sir John Sinclair's Statistical Account, and it throws more light on the cause of the increase of the English poor rates, than any thing I have yet met with."

I apprehend, the general increase of labour, within the period Mr. Howlett speaks of, does not exceed 25 per cent.—but that the average price of such provisions, as affect the labourer, have increased, at least, 60 per cent. but this is not all, for the sources of the market, which used to feed him, are, in a great measure, cut off, since the system of large farms has been so much encouraged: but it may not be improper to look still a little farther back, in order more fully to satisfy ourselves, that the wages of the labourer in agriculture, have not kept pace with the increased price of provisions—on this occasion, I beg leave to recommend Bishop Fleetwood's *Chronicon Preciosum*, to Mr. Howlett's perusal.

Section XXVI.

FAIRS AND MARKETS.

THE several fairs are held at the following places and times :

Acle, Midsummer-Day
 Alburgh, June 21
 Attleborough, Th. bef. East.
 Thursday, bef. Whit. Sun.
 and August 15
 Aylesham, March 23, last
 Tuesday in Sept.—Oct. 6.
 Bacton, 1st Monday in Au-
 gust, November 30
 Banham, Jan. 22
 Binham, July 25
 Briston, May 26
 Broomhill, July 7
 Burnham, East. Mon. & Aug. 1
 Cattleacre, April 18, July 25
 Cawston, Feb. 1, & last Wed.
 in April and Aug. *Sheep Sh.*
 Cley, last Friday in July
 Coltishall, Whit-Monday
 Cressingham Magna, Aug. 12
 Cromer, Whit-Monday
 Dereham, Feb. 3, July 3, 4,
 and Th. before Sept. 29
 Dits, November 8
 Downham, May 8, Nov. 13.
 Elmham, April 5
 St. Faith's, October 17
 Feltwell, November 20
 Fincham, March 3
 Forncet, Sept. 11

Foulsham, 1st Tuesday in May
 Frettenham, 1st Mon. in Apr.
 Fring, May 10, November 30
 Gaywood, June 11, at Gay-
 wood, and Oct. 17, kept at
 Lynn Custom-house key
 Giffing, July 25
 Gressingham, December 6
 Harleston, July 5, Sept. 9, &
 Nov. 28, 1 month, for Scots
 cattle
 Harling East, May 4, Sept. 16
 (*Sheep Show*), Oct. 24
 Harpley, July 24
 Hempnall, Whit-Monday,
 December 11
 Hempton, Whit-Tuesday,
 Nov. 22
 Heacham, August 3
 Hingham, March 7, Whit-
 Tuesday, October 2
 Hockham, Easter Monday
 Hockwold, July 25
 Holt, April 25, November 25
 Horning, Mon. after Aug. 2
 Ingham, Mon. after Whit-
 Monday
 Kenninghall, July 18, Sept.
 30 (*Sheep Show*)

Kipton-ash,

Kipton-ash (*Sheep Show*)
 Sept. 4
 Litcham, November 1
 Loddon, Easter Monday and
 Monday after Nov. 22
 Ludham, Thurs. after Whitf.
 week
 Lynn, (Mart) Feb. 14, lasts
 8 days.—October 16
 Lyng, November 21
 Malsingham, Tuesday before
 Easter, November 8
 Mattishall, Tuesday before
 Holy Thursday.
 Methwold, April 25
 New Buckenham, last Satur.
 in May, & November 22
 Northwalsam, Holy Thurs.
 Northwold, Nov. 30
 Norwich, Day bef. Good Fri.
 Do. (*Bishop-Bridge*) Easter
 Monday and Tuesday
 Do. (*Do.*) Whit-M. & Tu.
 Oxburgh, March 25

Pulham St. Mary, 3d Thurs.
 in May
 Reepham, June 29
 Rudham, May 17, October 13
 Scole, Easter Tuesday
 Scottow, Ditto
 Shouldham, Sept. 19, Oct. 10
 Southrepps, July 25
 Sprowston (*Magdalen*), Aug. 2
 Stoke, December 6
 Stowbridge, Sat. after Whit-
 Sunday
 Swaffham, May 12, July 21
 November 3 (*Sheep Shows*)
 Thetford, May 14, August 2,
 September 25
 Walsingham, Whit Monday
 Watton, July 10, October 10,
 November 8
 Weasenham, Jan. 25
 Worsted, May 12
 Wymondham, Feb. 2, and
 May 6, O. S.
 Yarmouth, March 28 & 29.

Many of these are much upon the decline, but some of them rather increafing.

The greatest of these, for cattle, are St. Faith's, Harleston, and Hempton Green; to which are brought a vast number of Scotch and Irish cattle.

The greatest for sheep, are Kipton-ash, Cawston, and Harleston.

The Markets,

As far as relates to the pitching of corn, are every where dropt, and the whole trade is carried on by sample, which is greatly against the labourer, artificer,

artificer, and little tradesman, as it has a tendency to throw the corn into the channels of monopoly, and I do not think a better thing could be done for the community, than that of giving all possible encouragement to public fairs and markets; for, among other good effects that might result from them, I am of opinion, it would tend more than any thing, to check the increase of large farms, as I have before ventured to observe.

As to the markets for other provisions, such as poultry, butcher's meat, and vegetables, I do not think any part of England can exceed that of Norwich, nor are those of Lynn and Yarmouth inferior, except as to size—but of late, the prices of all articles are very much increased, even without having any reference to the very late exorbitant rise, but merely stating the difference between twenty years since and last year.

Butter was then 7d. a pint, of 20 oz.—last year it was 1s.—cheese is increased from 3d. per lb. to 6d.—poultry and eggs in the same proportion—pork and butcher's meat from 3d. per lb. to 5d.—meal from 1s. to 1s. 6d. per stone, of 14 lb.—malt from 1l. 12s. to 2l. 8s. per quarter—vegetables very reasonable, and in much greater abundance than formerly—milk at 6d. a gallon, but very little to be had—wild fowl plenty and reasonable, in hard seasons.

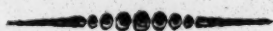
Fish,

Fish, considering it as a maritime county, neither regularly supplied or cheap. In the rivers there is good pike and tench. From the sea, the best fish are lobsters and soles, and sometimes the cod is pretty good; herrings very good; whittings rather small; oysters very large, but not good in proportion; herrings right good and cheap, and, it is presumed, the valuable trade they afford might be greatly improved and extended, by checking the encroachment of the Dutch upon the coast, who have for a series of years run away with the advantages which ought to have attached to our own eastern sea-ports, particularly to Yarmouth.



Section XXVII.

STATE OF THE POOR.



THE poor-rates have increased in this county in a full proportion to others, and with a view of stopping this increase, several houses of industry (*a*) have been established; but they are grievous things in the eyes of the poor, and I am afraid, are not found to answer the end that was expected from them. I know of no law that can enforce industry; it may be encouraged, and great good will result from it; but it never can be effected by compulsion (*b*).

There are two principles which should be kept alive, as much as possible, in the minds of the poor—pride and shame: the former will lead them to the attainment of comfort by honest means; and the latter will keep them from becoming burthen-some to their neighbours. But many of the modern plans, for making provisions for them, have tended to destroy these principles (*c*).

A man

A man born to no inheritance, who assiduously devotes his whole life to labour, when nature declines, has as great a claim upon the neighbourhood, where the labour of his youth has been devoted, as the worn out soldier or sailor has to Chelsea or Greenwich; and this reward ought to be as honourable, as it is comfortable, and not to be administered in a way that is repugnant to that natural love of rational freedom which every human mind sympathizes in the enjoyment of.— Such a man, as I have here characterized, ought to be distinguished from the lazy and profligate wretch, who has seldom worked but by force. The one ought not to be crowded into the same habitation with the other; but in houses of industry there can be no distinction (*d*).

The social clubs for mutual relief, which are prevalent in many parts of the west of England, are highly commendable; and, perhaps, as well worth the attention of the Board of Agriculture, as any object they can take up. If a little encouragement could be given to these laudable societies, which are now sanctioned by law, and proper places of security could be established for their little funds, it would tend very much to encourage the poor to struggle with their difficulties; and it would be consistent with sound policy, as well as humanity, in the rich and opulent, to add little donations to the poor man's nest egg, on these occasions.

casions. Earl Harcourt's example, at Nuneham, in Oxfordshire, is well deserving imitation; if a poor man puts a penny into the social box, he puts in another; if a farmer or tradesman contributes a shilling, he adds another; and by this means his lordship's estate is kept in high credit, the poor-rates are low, and the spirit of the peasantry unbroken; which is the great thing that ought to be aimed at, and unless some encouragement of this sort be given, it is impossible that the labourer in husbandry can, when he has a family, procure his daily bread, with his present daily wages.

There is one thing which is incumbent on all great farmers to do, and that is, to provide comfortable cottages for two or three of their most industrious labourers, and to lay two or three acres of grass land to each, to enable such labourer to keep a cow (c) and a pig—such a man is always a faithful servant to the farmer who employs him: he has a stake in the common interest of the country, and is never prompt to riot, in times of sedition, like the man who has nothing to lose; on the contrary, he is a strong link in the chain of national security.

There are but few great farmers, however, inclined to accommodate cottagers with these little portions of land, and when they do let them any,
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it is generally at double the rent they give for it. But I am persuaded, that if there were a certain number of cottages, of this description, in proportion to the size of the estates, and they were accommodated in this manner, and those places were bestowed as a reward to labourers of particular good conduct, it would do wonders towards the reduction of the rates, and the preservation of order; for I have been witness to several striking proofs of this, in two or three labourers, who have been thus favoured, whose attachment to their masters was exemplary, as they were not only steady in themselves, but by their example kept others from running into excess. There cannot well be too many of these places attached to large farms; they would be the most prolific cradles of the best sort of population.

There is another thing which it is incumbent on all occupiers of land to do, which is, to supply their own labourers with wheat at a moderate price—when the price in the market is high and oppressive to them (*f*). It is but reasonable, that the human servant should fare as well as the animal servant; a farmer does not give his horse a less quantity of oats, because they are dear, nor is it reasonable that the plough-man, or thresher in his barn, should have less for his penny, because the master gets a great price; but I do not mean to say this should be extended to manufacturers, because

cause they are in general better paid than labourers in agriculture, and have not so immediate a claim upon the land, as the workmen in the vineyard.

If one thing, in aid of what I have taken the liberty to suggest, could be established, it would, perhaps, go near to remedy all grievances; and, in a great measure, set aside the necessity of the poor laws, and this would be the adoption of something like Mr. Ackland's scheme (*g*) of taxing labour for its own support, by levying from the young and lusty, a penny to be put out upon accumulated interest, for the advantage of the old and decrepid. Age and infirmity would then dip its hand into the purse it had helped to fill; honest pride would be preserved, industry encouraged, and the latter part of a poor man's life would terminate in comfort (*h*).

NOTES.

NOTES.

(a) From Sir Thomas Beevor:—"These establishments, militating with every principle of humanity and political interest, and not unfrequently with those of morality, cannot be too often, or too much reprobated, and though this may not seem the proper place to enter into any detail of the subject, yet, perhaps, it may not be quite foreign to the purpose of this view, (omitting the article of inhumanity, which must arrest the observation of every one who knows the powers and management of them) to point out the injury the public sustains, from these institutions, in the loss of labour and corruption of manners.—With respect to the first, it appears, that in the year, from 1783 to 1784, the number of paupers in the workhouses at Norwich was 1301, the earnings of whom, in the year, were only 1029*l.* 10*s.* 8*d.* and in that from 1785 to 1786 the number of paupers was 1600, the earnings 1425*l.* 12*s.* or 17*s.* 8*d.* per head, per ann. not quite $\frac{3}{4}$ *d.* per diem—and in the house of industry at Wicklewood, the earnings of the paupers are usually about 15*s.* per head, per ann. little more than $\frac{1}{2}$ *d.* per head, per diem—and if it be allowed, that one-half (which is more than the due proportion) be incapable of work, the result will be only double the above pitiful sums: the reason of those accounts being taken from the specified years, is solely because at that time it was made the subject of enquiry by the writer of these remarks. As nothing stimulates to industry so much as interest, and the man who works for another, will ever contrive to do as little as possible, there are but few hopes of amendment in this point—

to

“ to what a set of useless beings are such numbers thus re-
 “ duced. In the article of morality, it is to be wished, that
 “ the truth of the following fact would be doubted, but the
 “ account has been published and never contradicted : that,
 “ upon an enquiry made into the state of the workhouses at
 “ Norwich, a few years ago, there were found three or four
 “ persons, of different sexes, lodged under the same blanket,
 “ men, women, and children, promiscuously associating to-
 “ gether. Many other similar instances can be produced,
 “ but these, and the other evils attendant on these establish-
 “ ments, will probably be the subject of a future publication.”

(b) From Mr. James :—“ If poor houses are grievous things
 “ in the eyes of the poor, I am apprehensive, it proceeds only
 “ from their mismanagement. Extreme poor, such as entitles
 “ a man to assistance, proceeds from several causes, from in-
 “ ability for labour, through sickness or age, unwillingness,
 “ through an idle profligate disposition, and, sometimes, from
 “ the want of opportunity : it never was intended that these
 “ three classes should be blended together ; if I am not mis-
 “ taken, poor houses were instituted with a view to be an asy-
 “ lum for helpless infancy and age, to furnish means of reco-
 “ very to the sick, and employment to those who are willing to
 “ work, but, from want of opportunity, are unable to sup-
 “ port themselves—but for what reason should the profligate
 “ and indolent be introduced, surely they are not fit inhabi-
 “ tants for an house of industry, the house of correction
 “ would, I conceive, be, by far, a more proper place ; at
 “ any rate, they should be kept apart, for as a general infec-
 “ tion is ever occasioned by a particular one, so one licen-
 “ tious character is often the means of substituting disorder
 “ and confusion, in the room of order and regularity. Com-
 “ pulsion is not congenial to the mind of man ; encourage-
 “ ment ought ever to be preferred to force ; this I advance
 “ as a general rule, but, like every other, it is not without its
 “ exception, for I must confess there are some which are
 never

" never to be overcome, but by the latter. As to the poor
 " disliking them, if our author does not mean the aged and the
 " disabled, is rather an argument in their favour, than other-
 " wise, for if their situations were rendered too comfortable,
 " their effect might operate very differently to what was in-
 " tended, by encouraging that very laziness which the insti-
 " tutions were in hopes of destroying: as it is, their dislike
 " may produce, first, a desire of providing for themselves,
 " and a disposition to embrace the first opportunity, which
 " by chance or enquiry they may happen to meet with. If
 " the aged and infirm are dissatisfied, humanity dictates to us
 " to lose no time in enquiring into the causes of their dislike,
 " and, if properly founded, to relieve and redress them."

(c) From Mr. Howlett:—" The remark in this passage is
 " indubitably just, and deserves the most attentive considera-
 " tion."

(d) From Mr. Howlett likewise;—" This is a most power-
 " ful objection to houses of industry, and there are many
 " more of equal force, and one cannot but be astonished at
 " the daily increase of their number."

(e) From Mr. Dann:—" Certainly it is highly laudable and
 " politic for farmers to encourage and reward labourers of
 " good conduct, but, in preference to furnishing them with
 " means of keeping a cow or pigs, I would recommend giving
 " them skimmed milk, and letting them have a proportion of
 " pork and wheat, according to the number of their family,
 " below the market price, and, indeed, such is my practice.
 " When they have a cow or pigs, it is too often seen, that it
 " leads them to dishonest means, to support them; such, how-
 " ever, has very often been the case in my neighbourhood;
 " but comfortable cottages, with proper gardens, I always
 " wish to see them have."

From Mr. Boys:—"If farmers, in general, were to accommodate their labourers with two acres of land, a cow, and two or three pigs, they would probably have more difficulty in getting their hard work done—as the cow, land, &c. would enable them to live with less earnings.

(f) From Mr. Howlett:—"This indulgence to the labourer is, undoubtedly, a matter of kindness and humanity in the master, but it seems by no means incumbent upon him, or if it be, it is equally so upon the employers of manufacturers; and if this abatement of price be requisite in one article, upon similar occasions, it must be equally necessary in all, and this would, in the end, be the same as an advance of wages, which surely ought not to depend on the choice or caprice of individuals, but be under the inspection and regulation of the public, as expediency might require."

(g) From Mr. Howlett likewise:—"Mr. Ackland's plan, in my apprehension, is, by much, the best that has yet been proposed to the legislature. If put in execution, it would probably be attended with some beneficial consequences, though certainly neither to the degree nor the extent here intimated. It makes no provision for natural weakness and debility of constitution, for occasional deficiency or scarcity of employment, for severity of seasons, and variation in the price of provisions; besides that, the whole goes upon the fundamental error, that the possible earnings of the poor are universally adequate to their necessities."

From Mr. Fox:—"It gives me much pleasure to perceive the ideas I have given on this subject, (in my Note II. on my second perusal of the Report for Gloucestershire) so appositely supported by the author."

(h) From Mr. James:—"Some such plan would, no doubt, be very beneficial, but the present price of labour will by

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“no means admit of this trifling deduction, therefore an alteration must take place previous to its adoption; in the interim, I would recommend a fund to be established, by means of the rich, for this purpose. The inequality of the poor-rates has long been a subject of complaint—suppose all the poor were to be consolidated, and every parish, by means of overseers, chosen annually from among them, but subject to the controul of some superior board, was to take into its care their own respectively—the means of their maintenance to be furnished by Government, who, in order to be enabled, might impose a small addition to the land-tax, or a per centage upon the assessed taxes.”

Upon these different remarks I have but little to say; Sir Thomas's first observation appears to me manly and just, but I could have wished, that in his second remark, he had not been of the same opinion with Mr. Dann. It seems to me a bad argument, that a man is to have a comfort withheld from him, lest it should have a tendency to make him dishonest.—We may as well say, that they ought not to have a chimney in their cottage, lest it should be an inducement to them to steal wood to burn in it.

Mr. Boys's remark is of the same cast: he is not willing to allow a poor man the greatest blessing that can be given him, lest the farmer should be liable to sustain some little inconvenience by it.

Mr. Howlett is for considering this as an indulgence to the labourer, if it be granted, and by no means incumbent on the great farmer: but in this I must totally disagree with him, for I think it is a positive duty, which the law of humanity and the duty of a christian strongly prompt him to comply with.”

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Section XXVIII.

REPREENSIBLE PRACTICES.

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THOUGH I have, in this Report, given great commendation to many practices of husbandry, which I think deserve imitation, it is incumbent on me, for the sake of justice, to take notice of a few things, which, in my opinion, are reprehensible. The harvest, a very important branch of husbandry, is gathered in a very slovenly manner: women and boys are seldom employed in any part of it. A certain number of men are provided according to the number of acres of corn; in the best parts of the county, ten or twelve acres is the allowance to a man; in the light parts, fifteen or sixteen acres. The man is boarded extremely well, and his allowance in money is from two guineas to fifty shillings, whether the harvest be long or short. The first thing the farmer aims at, is to time the beginning of his harvest, so that his corn may follow in succession, that no interval or pause may take place; as the boarding of his men is attended

tended with great expence, and, therefore, the sooner he can get the work through, the less it will cost him in provisions. This narrow idea often costs him nearly a tenth part of the value of his crop, for he seldom begins reaping his wheat so soon, by ten days or a fortnight, as he ought, though wheat is always the better for being cut rather early. It often stands till the ears turn down in an inverted state, and till it is so ripe and brittle, that when there happens to be a brisk wind, it is no uncommon thing to see four or five bushels of wheat whipt out and lost, and sometimes a quarter of oats (*a*).

The barley is always carried from the swarth, so that they never begin to carry till late in the day; and no part of the ground is raked till afterwards; so that a vast deal of corn is trodden out. After the bulk of it is carried, the piece is drag-raked, by men, with iron teeth drags; or by a drag fastened to a pair of wheels, and drawn by a horse. The latter is the best practice of the two, though they are both bad; for the rakings are so mixt with grit and dust, that the corn is of an inferior quality to the other. It cannot be doubted but the practice of most other countries is to be preferred to what is observed here,

In the first place, the husband is feeding with unusual luxury, while the wife and children are starving.

starving. It would certainly be more comfortable if they undertook the reaping and mowing of a certain number of acres, in which case, the man might work with his family, and his wife and children would earn something considerable, not only in the reaping part, but in the cocking and raking the lent grain, which would enable them to eat a comfortable morsel together. There would not, if this were the case, be half so much corn shelled and lost; and the barley, in a wet season, would be better preserved, and admit of being carried much earlier in the morning from the cock, than it can from the swarth (*b*).

Stacking is another thing which is very ill done here, particularly wheat stacks, though they are somewhat improved too in making them, of late years; but they run them up in a long rickety form, without symmetry, and seldom set them upon saddles, to preserve the corn from vermin. Another very bad practice relates to their fences. No farmers raise a white-thorn hedge sooner, or destroy it so soon; every other time of cutting hedges of this sort, they are buck-stalled, as it is called, which is cutting the whole hedge off at about three feet from the ground, which is an irreparable injury to it, by checking the growth, and making it hollow at the bottom. And as to other thorns and stubb-wood, they are apt to cut them as their immediate wants require, at all seasons of
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the year, and to leave the stool in a jagged state, so as to admit the wet into it, which causes it to decay. On the contrary, wood should never be cut but in the winter season, and should be cut upwards to a smooth point, and as close to the stools as possible, and then it will shoot again with more vigour.

I have taken the liberty to point out these practices, as discreditable to this county, but I do not know of any other which are very reprehensible, but there is one, which is prevalent in some other counties, which has a very hurtful tendency, I mean that of burn-baking, upon which, I trust, I shall not be considered as going much out of my way, if I express my sentiments upon it with freedom, in this place; I will frankly avow I do it with the double view of preventing its introduction here, and checking its progress elsewhere; for though the crops obtained from it, are such as to produce a temporary advantage to the occupier, it is a mortgage without redemption upon the fee-simple of the land, by reducing the staple, and depriving the soil of its natural grasses. The better way is to scale-plough the surface, and afterwards bury the roots and give them time to rot, and land, thus used, is generally very fertile and kind. Burn-baking is, in my opinion, a very pernicious practice, and I trust will soon be exploded. If it is any where to be allowed, it is upon the coarse fenny parts of Lincolnshire—upon a shallow

shallow soil it is insufferable, because it tends to lessen the depth of the soil; for though the advocates for it will say, that earth cannot be reduced, yet when we consider that the surface or rind of land, (which by this practice is pared off about two inches in thickness) is nothing but the relicks of putrified plants, which afford the best aliment to renewed vegetation, it certainly does, in this sense, admit of diminution, and besides weakening the soil, it unquestionably destroys all seeds of the best grasses which nature has deposited in the surface of the earth, which is very obvious from this land being less favourable to grass, for a series of years, after it is burnt than before. This pernicious practice must have had its rise from laziness, being an easier way to get rid of a coarse rough swarth, by this means, than by such modes of culture, as would have for their object, the reducing it to a rotten state; it must therefore be expected, that all temporary occupiers will continue advocates for it, but it is presumed, that all owners of estates, looking forward to a more permanent interest, will do all in their power to discourage it.

Upon a perusal of the Agricultural Reports, lately published, I was much pleased to find this practice condemned by a very considerable majority of the reporters. Mr. Davis observes, "that
" it is a maxim often quoted in Wilts, that how-
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"ever good the husbandry may be for fathers, it
"is ruin to sons."

Mr. Fox, for Monmouthshire, says, "that where
"the soil is thin, it is injurious—that it may give
"a crop for a year or two, but after, will give
"very little produce but that of hungry weeds."

Mr. Stone, for Lincolnshire, confirms the obser-
vations of the latter, by remarking, that where the
practice has prevailed, "evident marks remain of
"the injury the land has sustained by it."

Mr. Lowe, for Nottinghamshire, observes, that
"lands, in Norwall lordship, have been entirely
"spoiled by it." Mr. Calvert, in the Appendix
to the same county, observes, "that in many in-
"stances he has known a barrenness ensue, which
"a long series of years has not been sufficient to
"remedy."

Mr. Holt, for Lancashire, says, that "it has
"been too much practised, and its destructive
"effects are but too apparent upon many farms,
"where it has been frequently repeated."

Mr. Tuke, for the North Riding of Yorkshire,
states an experiment made between one part of
a field of old grass-land broke up, in a proper
manner, with the plough, and another part burn-
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baked, the result of which was, "that the crops
 " upon the pared and burnt land, after the first
 " two or three years, kept gradually growing worse,
 " and upon the ploughed part, the crops, for some
 " years, grew better, and afterwards were visibly
 " superior to the pared and burnt land."

Mr. Vancouver, for Cambridgehire, observes,
 that "in the King's, the Queen's, and other coun-
 " ties in Ireland, where paring and burning the
 " thin high lands have been unfortunately prac-
 " tised, extensive and naturally fruitful tracts have
 " been reduced to the lowest and most exhausted
 " state of barrenness and poverty, and as the like
 " effects must on a certainty, under similar circum-
 " stances, follow the same practice in this kingdom,
 " is it not easy to comprehend the reasoning of
 " those persons, whose judgment leads to the gene-
 " ral recommendation of so pernicious a system."

After such a chain of reprehension, from so
 many respectable sound agriculturists, I was not a
 little surprized at Mr. Arthur Young's coming for-
 ward, in the Hampshire Appendix, not only with a
 sanguine recommendation of this reprobated sys-
 tem, but with a sort of censure upon such of the
 reporters as are of a different opinion. In an-
 other place too he has expressed himself with
 great confidence upon this subject, but whether
 to his credit or discredit, I will not take upon me

to

to determine, but as Mr. Young's reasoning may have a tendency to increase what I conceive to be a real evil, I mean the breaking up of the maiden downs, which are the glory of the western counties, and one of the greatest supports of the woollen manufactory, I hope I shall not be considered as going out of my way, in making a short remark upon it.

The increase of rent, upon land thus broken up and passed through this ordeal trial, is no decisive proof, that the practice is advantageous, even in that point of view, for it is evident that reducing the quantity of down must reduce the number of sheep, and consequently lessen the value of the old tillage, by robbing it of the fold, which is its best support; so that two certain advantages are sacrificed for one, and that, perhaps, not permanent. In short, without a due proportion of old sward, a flock cannot, all the year, be kept in health; artificial grasses, though good in their kinds, will not alone answer the purpose required; this every farmer of experience knows, and it is not in Hampshire alone where the loss of this old turf has been grievously felt, but in many parts of this county, particularly in the neighbourhood of Thetford, where the breaking up of so much of the heath land, has so far contracted the sheep-walks, that the flocks sustain an irreparable injury from it. So far these practices attach to farmers; but there is

one more, which I cannot pass over without notice, which applies to the poor, I mean that scandalous custom of cutting up the commons for fuel, without any distinction of soil: if they were to confine it merely to boggy or rough coarse parts, it would be less reprehensible, for I will allow the argument of necessity to be very strong; but to cut them up, as they now do, indiscriminately, frequently paring off green sward, the herbage of which is worth twenty shillings an acre, is unpardonable; for independent of their not having a shadow of right to break up the soil, they, in fact, destroy their own interest in the mowhage, in which, perhaps, their right cannot be disputed. I hope, therefore, that this caution may have some good effect in recommending it to the poor, to be more modest in this practice in future, and not to do it without leave first obtained from the lord of the manor, and, at the same time, be a hint to the latter to look into this abuse, and endeavour to stop it in time.

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NOTES,

(a) From Mr. Wagstaff:—"The remark on the late beginning of harvest, and the consequent loss from delay, most literally did apply some twenty or fifteen years back, and may still apply to many individuals now; but a requisite reformation has already taken place with the generality of the farmers, particularly in the vicinity of Norwich."

(b) "It may be recollected, that while the men are thus profitably employed to earn a sum generally adequate to their annual rent, the wives and children are gleaning the fields, by which a provision is made of bread for the whole family during winter months; and a little providence before harvest, or a small dip of credit on the wages to be received by the husband, is an effectual bar against starving—while their social meetings are a triumph of emulation, and would not be exchanged by them for any other species of labour, as, indeed, it is generally more and longer beneficial. While cocking, or gathering the swarth, is of problematical preference, it is certain that the Norfolk farmer prefers his own mode, as raking by some of his men, he believes is most to his profit."

I am much indebted to this gentleman for a great many sensible and humane observations upon different parts of my Report, which, in my opinion, do him great credit; but, in the present instance, I doubt he has suffered himself to be biased by a little provincial prejudice.—I have no objection to the womens' gleaning, provided they reap first; which is
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the case in other counties. There is not gleaning enough for all the women and children, the latter would be alone sufficient—but this might be regulated without any prejudice to the women, who were more profitably employed, provided there was a proper disposition in the country to that effect.

As to the social meetings, I should think better of them, if the wife and children participated in them; but, as this now stands, we meet with nothing but drunken men, filling the public houses for some days after the harvest is ended,

Respecting the barley, if Norfolk men should still object to its being cocked, I would advise them to gather it, at least, with rakes instead of shack-forks, for the latter often leaves two bushels per acre upon the ground, and the difference in the expence is only 2d. per acre.



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Section XXIX.

GENERAL OBSERVATIONS.



IN this Report, it has been my aim to give a faithful account of the Norfolk husbandry, and such other customs as are necessarily connected with it, without extenuation or exaggeration; and the intelligent farmer, in other parts, will be under no difficulty in determining which parts to adopt, and which to reject.

In the perusal of a treatise of this kind, it is incumbent on the reader to lay aside all prejudice, and suffer his mind to be open to conviction—otherwise, I shall have written, and he will read, in vain. I should not have thought it necessary to introduce this caution, if it were not almost generally allowed, that husbandmen are more obstinately attached to old practices, let them be ever so bad, than any other description of men, and are consequently averse to the introduction of any thing new, let it come ever so well recommended;

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at the same time, it is highly proper to be careful against adopting the visionary recommendations of modern theorists, who, upon hypotheses of their own, hold up wild systems of delusion, which are apt to mislead the credulous and do great injury.

True judgment seems to lie in selecting such objects for imitation, as are either the result of well attested experiments, or that come from such respectable authority as cannot be doubted.

In the prosperity of agriculture, there are three persons who have a natural tie upon each other: the gentleman of landed interest—the farmer—and the labourer. Their degrees of interest are different, but their connection must be permanent, as they cannot subsist without the aid of each other. Protection is due from the first—humanity from the second—and obedience from the third. Sound policy dictates a due observance of this mutual obligation, and the preservation of a proportionate and just scale in respect to every thing which mutually affects the parties: a departure from this, will, in the first instance, prove very detrimental to one of them, and cannot ultimately be of any advantage to the others.

Admitting this, as every impartial man must, and comparing the advanced price of provisions,
with

with the present rate of wages, and the price of labour, the cause of the increase upon the poor-rates must be obvious. I would, therefore, advise every gentleman in the commission of the peace, carefully to peruse a book I have before recommended in this work, namely, Fleetwood's *Chronicon Preciosum*, which will shew him the proportions which were observed at that time, and likewise to advert to two particular acts of parliament, framed by the wisdom of our ancestors, viz, the 5th of Elizabeth, chapter iv, and the 1st of James, chapter vi; where sufficient power is given to regulate this important business.

Every farmer I would advise, to consider the labourer not as an incumbrance upon him, but as essentially necessary to carry on his business, without whom he could not live or support his own family; but the present weak policy has arisen from a misconception of the utility and real importance of the labourer to society. No farmer will slight his horse, or give him the less hay or corn for its being dear, if he did, he would expect the animal to decline in condition.—Why then should the human servant be less attended to? He is, undoubtedly, the first sinew that puts the labour of the farm in motion, and without which it cannot be carried on: if, therefore, his full earnings will not keep him, it is a duty incumbent on his master, to let him have a sufficiency of corn, for his own family, at the same rate or price by which

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he is paid for his labour, and not to suffer the spirit of a poor man, of this description, to be broken.

The force of this argument is grounded in my heart, and I hope it will strike those with conviction, who have power, in their different stations, to administer the comfort I recommend—and that no dispassionate person will blame me, for thus standing forth—the steady friend of the helpless.



LETTER
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APPENDIX.

On the CULTURE of POTATOES.

LETTER FROM SIR MORDAUNT MARTIN, BART. TO
SIR JOHN SINCLAIR, BART. DATED BURNHAM, 7th
MARCH, 1795.

SIR,

I N consequence of the circular "Hints respecting the Culture of Potatoes," I take the liberty of addressing you, in favour of a sort I do not find named in that paper—I mean the Kentish seedling. I was originally obliged to Sir Thomas Beavor for my stock; they have never yet exhibited any curl, and, I think, I may safely assert, that they have every season produced double the quantity of the Champion. I do not prefer them as dainties for the table, but, perhaps, their insipidity and perfect white mealiness render them the most desirable of any for the purpose of making bread. If they have not already been tried, and disapproved by the Board I should be proud of the honour of sending a few, by way of specimen, wherever you may favour me with permission to direct them.

My stock is not many bushels, having only preserved the sort with a view of supplying the neighbouring cottagers for their gardens. I feel no small satisfaction in having taken
some

some pains to introduce, by example, the field culture of potatoes, in hopes, that what the poor might consume, would be no more missed than the turnips, which, I believe, few farmers grudge them; but I fear there are many formidable objections, besides the insurmountable one of the shallow staple of our dry soil.

One excellent farmer, who is a man of a very liberal mind, (Mr. Overman, of Burnham Deepdale,) acknowledges, that on his first trial, he had more wheat per acre, where his potatoes grew, than on the rest of the field: but the impossibility of getting a large space of ground cleared in time to sow wheat, on account of the gleaning, determined him not to repeat his experiment.

The wire-worms seem to be an increasing evil in our crops which follow grass, especially saint-foin, and I have, in two instances, found potatoes increase them to a great degree.

Another objection with me is, that when I fed my cows with potatoes, they were all so tender footed, as to be hardly able to walk from the yard to an adjoining close in which I threw them: this I attributed to their treading in the dung formed by the potatoes, as they soon recovered when they ceased to eat them.

I sincerely hope the laudable endeavours of the Board of Agriculture, may prevent the apprehended want of bread corn, by promoting the growth of early potatoes; but I have been informed, that in Prussia, the use of potatoes is prohibited till a fixed time in the autumn, as it is found that the earlier use of them occasions the bloody-flux—the difference of climate may possibly render this precaution unnecessary here, but you will, I hope, attribute my mentioning it to its true motive—a desire of preventing or finding a remedy for any inconvenience which may attend an object so apparently desirable, as the general culture of potatoes.

I am, &c.

Upon Improving the Breed of Cattle.

LETTER FROM MR. OVERMAN, TO SIR JOHN SIN-
CLAIR, BART. DATED BURNHAM DEEPDALE, 15th Aug.
1793.

SIR,

AS the pursuit of agriculture is the path of life allotted to my share, I cannot be inattentive to any undertaking which may serve to forward so great a national object, more especially, when I see the investigation of it committed to gentlemen equally known for their extensive knowledge, and the benevolence of their intentions—the most beneficial consequences must of course follow.

I beg to assure the Board of Agriculture, that I by no means want inclination to contribute any information, in my power, toward forwarding the great work they are engaged in; but I much fear, at the same time that the partiality of some unknown friend has over-rated both my abilities and my experience in husbandry; the latter of which has been exercised only upon a very narrow scale, and, were it otherwise, the attention necessary to the conducting my own business, does so far engross my time, as to allow very little avocation from my main pursuit.

I am of opinion, notwithstanding the many modern improvements which we boast of, that husbandry, in general, is still in its infancy, and that the knowledge of cattle is more so.

The county of Norfolk produces abundant proofs, that bones and offal are the produce of a large portion of the best herbage of this county.

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Much praise is due to the endeavours of Thomas William Coke, Esq. M. P. to introduce an improved breed, both of sheep and neat cattle; but we do not see that his example has been followed, as yet, in the degree which it certainly claims. Innovations, of any kind, are, to men of uninformed minds, reconciled with difficulty, and to wear out rooted prejudices, requires great length of time.

As I learn, from the best information, that the investigation of the state of husbandry, in this county, is committed to the care of that very able and experienced agriculturist, Nathaniel Kent, Esq. I am persuaded, that the public expectation will be fully answered by the report of that gentleman, but should it prove, in the event, that any *local* circumstances have escaped his enquiry, within this district, I shall be ready to communicate any information in my power respecting it,

I am, Sir, &c,

On Fattening Beasts with Oil, Bran, & Hay.

LETTER FROM LORD PETRE TO SIR JOHN SINCLAIR,
BART. DATED PARK-LANE, 2d APRIL, 1795.

SIR,

I AM very sorry that I was detained at a meeting of the Chelmir Navigation Company, till it was too late for the Board of Agriculture.

I have received the following account from the country, relative to the fattening of beasts on oil and bran: it is not so accurate as if they had been fed with a view to making a regular experiment, but sufficiently so for general information.

To finish a beast, weighing 100 stone or more, and coming from grass half fat, will cost, in oil, bran, and hay, 10s. per week, and gain, at least, 12 stone per month, by which, at the moderate price of $4\frac{1}{2}$ d. per lb. or 3s. per stone, the feeder will be the loser of 6d. per stone; but as the ox will be improved, in value, 1s. per stone more, than if he had not been finished with oil, (on account of the increased quantity of fuel gained by the feeding with oil or oil-cakes) the feeder, upon the whole, is well paid for his trouble and expences.

What would be the difference between the expence of oil, or oil-cakes, I cannot pretend to say; I am at such a distance from the mills, that the carriage is very considerable, and a jar or two of oil is easily brought from London, which induces me to prefer oil.

I remain, &c.

On

On the Practice of Dibbling Wheat.

LETTER FROM J. B. BURROUGHES, ESQ. TO SIR JOHN SINCLAIR, BART. DATED BURLINGHAM, 21st AUGUST, 1794.

SIR,

I HAD the honour of receiving a letter from you, with your Address to the Board of Agriculture inclosed, for which I beg leave to return my proper acknowledgements.

In your letter you mention Mr. Varlo's referring to me, in a paper he laid before the Board of Agriculture, respecting some important experiments I made in the practice of dibbling; in consequence, some questions are proposed to me. Permit me to observe, Sir, it was not till the autumn of 1792, I adopted this mode of setting wheat, to any extent, therefore, cannot have made any experiments worthy to be laid before the Board; but have collected such information as the neighbourhood affords on the subject, which, with my own observations on the practice, I humbly submit to you.

First. What are the different sorts of grain that can be dibbled to advantage?

Answer. Wheat, peas, barley, and oats.—Beans also, when grown in this neighbourhood, (which is but seldom) are dibbled.

Second. What is the proper season for each, and can dibbling be done earlier and in worse weather than when seed is sown by other processes?

Answer. The weather suitable for sowing, is the same for dibbling.—The wheat dibbling begins the middle of September, and continues to the end of October; for barley and oats
March,

March, and the beginning of April; for peas, March, and as much earlier as the season will admit of.

Third. What is the expence per acre, and what has been found the best dibbling instrument;

Answer. Wheat is dibbled from 9s. to 10s. per acre; four furrows are contained in a yard wide; two holes are dibbled in each furrow, and the holes are three inches distant in the rows. Barley and oats at 8s. and peas at 7s. per acre. The instrument commonly used in this neighbourhood, I have taken the liberty to send you; it is steeled at the point, about three inches in length—the depth of the holes is about two inches.—This instrument is used for all dibbling.

Fourth. What are the best soils for dibbling, and is it found applicable on deep clayey soils?

Answer. Our lightest soils are dibbled to advantage, and so on, to the strongest loamy soil: deep clayey soil does not abound in this neighbourhood.

Fifth. How many persons, per acre, does it require, and what time does it take to dibble an acre, by any given numbers?

Answer. One person, with a pair of dibbling instruments, will do half an acre a day of wheat, three quarters of an acre of barley, oats, or peas, with the assistance of children to drop the corn into the holes; the wages, per day, of a child that drops into only one hole, is 3d.—of such, six are required to follow one man; of those that drop into two holes, three are required to follow one man—the wages of such, per day, is 7d.; there are sometimes employed those that drop into three holes—their wages, per day, is 10½d. and only two such are required to follow one man.—Four men to dibble, with their due number of droppers, are esteemed sufficient to work in one party.

Sixth. What is the saving of seed per acre?

Answer. Not less than six pecks, nor more than eight pecks, per acre, are dibbled: if sown broadcast, from three to four bushels per acre.

Seventh. What is the additional produce per acre?

Answer. This is not yet ascertained by experiment: estimated at four to six bushels per acre.

Eighth. Is the grain of a better quality?

Answer. Exceeds the broadcast, in weight, from ten to twelve pounds in the quarter.

Ninth. Can the practice be easily disseminated?

Answer. By employing persons used to dibbling, with those that are totally strangers to the practice, will readily teach them the way: and, upon enquiry, I find persons in this neighbourhood willing to engage themselves, for a season, at a trifling addition of wages, and their travelling expences allowed them.

Lastly. Strict attention is required towards the children, that they are not suffered to drop more than three or four grains of wheat, barley, or oats into each hole, nor more than two or three beans or peas, as it may considerably injure the crop, besides waste of seed.

Any information I can obtain farther, to throw light on this subject, I shall be happy to communicate, and remain, &c.

*Answers to the Questions from the Board of
Agriculture, respecting Dibbling,*

By MR. BAKER, OF ACLE, DATED 13th AUGUST, 1794.

THE Board having done me the honour to apply to me, for information on the subject of dibbling, I have answered the points referred to, in the concise and plainest manner I am able.

First. Wheat, barley, peas, and vetches may be dibbled to advantage.

Second. The most proper season (in the county of Norfolk) for dibbling wheat; is old St. Michael, and fourteen days after; for barley, the month of April; peas and vetches, the latter end of February and March, as the season may be.

Third. The expence of dibbling, in our county, is from 8s. 6d. to 10s. per acre, for wheat and barley; and 7s. 6d. to 8s. peas.—We have but one sort of dibbling instruments, which have the lower end of a conical form, for making the holes.

Fourth. The mixt and sandy soils answer dibbling; deep clays, I observe, are not often dibbled, but whether it is found not to answer on such grounds, I am not able to say.

Fifth. Two dibblers, with three droppers each, will dibble an acre per day, of twelve hours.

Sixth.

Sixth. The saving of seed, per acre, is (if the droppers are carefully attended to*) about six pecks of wheat, eight of barley, and four of peas and vetches.

Seventh. The additional produce, per acre, in wheat, I cannot so clearly speak to; although I have dibbled my wheat for several years, I never fairly tried the experiment. Last year was my first dibbling of barley, and to try the difference between sowing and setting, I dibbled a part, and sowed a part of a ten acre piece, ascertaining the quantity of each, the land husbanded in the same manner, and the dibbled and the sown done at the same time; the dibbled land produced twelve bushels, per acre, more than the sown, which have induced me to dibble the whole of my barley this year.

Eighth. The grain, both of wheat and barley, that is dibbled, is of better quality than the sown, it being more free from dross, and the kernel larger.

Ninth. Dibbling has spread very fast in our county, the dissemination thereof became easy from the utility; some few have introduced the drill, but the progress of that system seems to be very slow.

Lastly. The advantages in dibbling, which strike me, are as follows: the increase of crops, the saving of seed, and the employment of a number of poor children, which, without that, would be idle, are advantages, in my humble opinion, to be recommended.

* On the droppers depend very materially the saving of seed. I have found, as the practice of dibbling increased, that from the number of children working together, rendered it impossible to make them do their work properly; therefore, I have, these two or three last years, divided my dibblers, and have not more than two work together, by which I have the seed dropped with more propriety, and not half the trouble to myself.

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The above account, Sir, to the Board, is my own opinion, if it will be of any use shall be extremely glad, and shall be always ready to communicate to the Board any thing I am able.



Remarks on the advantage of Dibbling,

BY MR. WAGSTAFF.

I MUST beg to dissent from Mr. Kent, in respect to dibbling being not in so high estimation, as some years since; it is, I believe, true, that in certain districts of Norfolk, that, properly speaking, dibbling is somewhat lessened in its manual practice—as, to save the expence by hand, many farmers have adopted spiked and drill rollers, imitative of the process pursued in real dibbling; while this is a confession to, and confirmation of the utility of dibbling, its manual practice, where hands are easily procured, doth not appear to be lessened, where it hath been long adopted, while it is annually diffusing in an adjoining county, and is become a subject of experiment in other counties. Indeed, what this gentleman has said, that wheat so planted is better bodied, and consequently heavier, is true, in fact, while a saving of seed is acknowledged: these, with the clover or grassy leys, being pasturable to the hour of ploughing, while the inverted turf is a certain manure, and forms, as it were, a matrix for the nourishment of the embryo seed, which, to admiration, dilates its shoots, covers its allotted space, and each shoot has its culm or stem, the ear of which is more replete in number, and with a larger grain than arises in the broadest process: and it may be remarked, that where certain holes have carelessly been
passed

passed without seeding, the parallel rows, on each side, have tillered forth their branches, whereby there hath not been an apparent deficiency, nor, perhaps, much of a real one: certainly it is, in general, or with rarely an exception, that lands of the foregoing description, thus dibbled, with a saving, at least, of a bushel of seed per acre, are productive of more than the quantity sowed, and that grain specifically weightier than from equal land, after repeated ploughings, when sown broadcast produces.

I wish to add, with a degree of pleasure—a pleasure resulting from the parochial poor being found necessary to be employed, as some of those farmers who had substituted the spike or drill roller, have, from a conviction of an inferiority of the planting by hand, turned back again to dibbling and dropping; while it is a justice, due to some of those who have thus substituted the roller, that they have pleaded an expediency from not being able, at all times, to procure a competent number for dibbling, &c.—I wish further to remark, perhaps, with a degree of partiality, from having had the earliest predilection for dibbling of wheat, and being the first who called the attention of the farmers of this county to its utility, that many hundred quarters of wheat are hereby added to the national stock, while, I believe, that little more than half the sum of its value goes to the support and relief of thousands of parochial poor, who would, more generally, be destitute of labour, at the period of committing the seed wheat to the ground.

On the Advantage of Dibbling Wheat.

EXTRACT OF A LETTER FROM MR. CHARLES VARLO,
TO LORD VISCOUNT CREMORNE, DATED LONDON,
21st JUNE, 1794.

I FLATTER myself you will be so kind as to lay before the Board of Agriculture, of which you are a member, one of the most valuable improvements that, perhaps, ever appeared in that science, viz.

The method of setting corn, grain by grain, as at present practiced by a great number of farmers in Norfolk, and which would become general in the three kingdoms, were it publicly known to be of the utility it really is.

As I was the first that proved its value, both by theory and practice, it gives me great pleasure to see the method answer my most sanguine expectations, and overcome the prejudices that were first raised against it. I make no doubt, but were this method to become general, that one-third more corn would be produced, than is by the present mode of random sowing, besides other advantages that would accrue both to the farmer and labouring poor.

This is no chimerical scheme, but real facts, which I shall literally and simply show as they happened:—viz.

In 1764 I tried the experiment, and inserted the result in my *Yorkshire-Farmer*, published in the second year, and have since continued the directions of management in all my editions,

tions, both of the New System of Husbandry, and Essence of Agriculture, which were circulated in England, Ireland, and America.

In considering the works of nature, through all the vegetable creation, and comparing them with the farmer's practice of sowing, I found many defects in the latter, which cramped the former from producing her abundance, but in nothing more than in that of seeding the ground, as, in most cases, three-fourths of the seed is thrown away by the present mode of random sowing.

Mr. Tull, and many other authors, had the same idea, which induced them to invent drill-ploughs, in order to reduce it to some sort of a regular system by drilling—but, by all their efforts, it never could be made general.

When I came to consider the whole process, I found that even dibbling was only half doing the business, as air and roots, which keep the crop in health and vigour, can only circulate two ways; I therefore caused a machine to be made, to place the corn regularly in a diagonal form, it was finished in 1764, for which the Honourable Dublin Society voted me a premium.

With this machine I proved the proper distances that the grain should stand from each other, in order to give nature liberty to produce her full increase, but in these I found there is no general rule without an exception, but that circumstances must vary according to the soil, which, if of a deep and rich quality, and kept clear from weeds, one grain, set in the middle of a circular foot diameter, will stool to fill the space—but if the soil be of a weak, sandy, or gravelly nature, a grain would only fill about six inches diameter; however, this is supposing every grain to happen nothing, but to come to maturity, which is too great a hazard to trust to; therefore,
experience

experience has taught two, three, or even four grains in a hole are necessary, and may be productive of a sure crop.

When a grain of corn vegetates, it appears with two blades sticking together, till about three inches high, then it parts and falls flat on the ground, to each side of the root; at that period, it is what we call weaned from the kernel, and then begins to take its nutriment from the earth, whereas, the first two blades are, in fact, no more than the kernel or flower of the seed, turned into a green leaf; when this springs up, it leaves in the ground the husk or bran, which may be said to resemble a blown egg, and these will remain, undecayed, even till after the corn is reaped. By thus observing minutely the progress of the plant, through all its stages, led me to find out the cause and preventative of smutty wheat, a malady well known among the farmers to be the destruction of many a good crop; having hit upon the cause, it was easy to find out an effectual cure, which I have done, is well known to numbers that have read my works, and, I believe, I may say, I was the first author that so minutely and so largely treated on the subject, through all its stages of growth, from the seed to the sickle—but to return to the setting: the seed plant which springs from the kernel, generally produces the stoutest straw, largest ear, and boldest grain, though, indeed, all the succeeding shoots, which spring from the sides, may be good, yet, in general, they are not, but abate something of the size of the ear and number of the grain of the first shoot.

Nature is very prolific, and will not fail of filling the ground, so long as she can find food to feed the plants. The ear in the middle, which fills the kernel, will be the largest, and, if good land, perhaps, contain from 90 to 100 grains; the next ears may abate something of the number, and so on till they become very small, perhaps, only a few grains in an ear; but, were any of these branches split off while young and transplanted, they would strike root and produce

ears of a full size, according to the room given for the root to spread; this shews the true policy of putting a proper number of grains into each hole, two, three, or, at most, four, is very sufficient to produce a full crop—more would starve the cause, by eating one another out; four dropped in a hole of an inch diameter, (which is generally the size of a setting-stick) would have an outside to give them liberty to feed round, and the ear, being the produce of the flower, as before observed, would be strong, and the straw stout to support it, whereas, should five, six, seven, or more, be dropped in the same hole, (and which is too often the case) they would draw each other up to be weak and dwindling, the inside plants would suffer both for the want of food and air.

I have seen so many experiments of the sort tried, that I am confident none can equal the method of setting corn at a proper distance, as before described, in order to produce a full crop.

Another great benefit that arises from the corn being set at an equal distance from each other is, that it can be quickly hoed, an operation very necessary to kill the weeds, lighten the ground, and give vigour to the plants, and is a business that may be performed by women, boys, or girls, as the space between root and root is not to seek, being at a regular distance.

When my work made its appearance first among the Norfolk farmers, (which are some of the best in the kingdom) it was looked upon as a foolish chimerical scheme, and not likely to answer the purpose, within any reasonable degree of expence, except it could be performed by a machine, such as spike-rollers, &c. and, indeed, though I was well convinced of its utility, by the eye of reason, yet I was rather doubtful, that if it failed, this is the rock it would split upon; however, experience soon proved the reverse.

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It is true, I found out the first principle by my machine, as is before specified, but repeated trials shewed, that no complicated machine was equal to setting by hand.

About five years after my work circulated in Norfolk, business brought me to that county, and in an open field, about three miles from Norwich, I was agreeably surprized to see several companies at work, setting wheat—this happened about twenty-five years since: I never heard any thing more of it till the present year, I came to Lynn in Norfolk, where I dined at the Crown Inn with a company of gentlemen farmers, who mostly followed that practice, and who all agreed, that it was a very valuable discovery, both to the farmers and the poor.

Having so good an opportunity of taking the sense of so many respectable farmers as were present, I begged to know the particular advantage that accrued from this mode of setting, above all others they formerly practised, and if they were willing I should report it to the Honourable Board of Agriculture, or the Royal Society, in order that if the members of the said Board thought proper, they might insert it in the public papers, for the good of the community in general; they severally answered, they had no objection how public it was made, for it was well worthy of being communicated. I requested to know what the increase might be by setting, and the other advantages? To these questions I was answered as follows:—First, that the produce was more, by ten or twelve bushels an acre, than by the former method, particularly if the set wheat is hoed. Secondly, it is less liable to misfortune, such as lodging, after heavy rains, mildews, &c. Thirdly, the straw is stouter and the grain bolder, consequently would give the best price. Fourthly, employing so many poor children, parish rates would be less.

As to the quantity of wheat that might be set in the season, it may be judged of by the gentlemen, whose names are hereinafter

inafter specified, given in writing by Mr. George Barber, one of the company, viz.

	Acres.
John Barber, of <i>Dunton, Norfolk</i> , . . . set . . .	200
Benjamin Barber, <i>Woodbastwick, Do.</i> . . — . .	140
George Barber, <i>Stanninghall, Do.</i> . . — . .	100
Thomas Brown, <i>Thrigby, Do.</i> . . . — . .	70
George Everit, <i>Caister, Do.</i> . . . — . .	60
John Christmas, <i>Billockby, Do.</i> . . . — . .	100
James Burroughes, Esq. <i>Burlingham, Do.</i> — . .	140
John Harrison, <i>Panxworth, Do.</i> . . — . .	130
Thomas Saul, <i>Blofield, Do.</i> . . . — . .	16
George Baker, <i>Acle, Do.</i> — . .	140

The last gentleman (Mr. Baker) has also set, by hand, a large quantity of barley, which is found to answer the purpose as well as wheat; so would oats and rye, as they are grain that multiply, if they have room given to spread.

If this method was become general, it would save an immense quantity of seed, and keep the poor employed from February to May; and, as experience has proved, past contradiction, the great utility of setting wheat in so extensive a manner, might not the scale be extended—even through the three kingdoms.

REMARKS, by Dr. HINTON,

Upon the Advantages of Peat and Lime for Manure, with a Recommendation of the Scuffler, as an improvement upon the Norfolk Plough, in very light parts of the County of Norfolk,

IN the western extremity of this hundred, the farmers, in general, complain of the want of manure, to fertilize the arable land, in the extensive parishes of Hockwold, Wilton, Weeting, Feltwell, Methwold, and Northwold.—These parishes are surrounded by twenty-five thousand acres of lowlands, containing inexhaustible beds of excellent peat,

Mr. Kent, in his “Hints to Gentlemen of Landed Property,” asserts, (I am convinced with great truth) peat ashes are one of the noblest manures we have for artificial grasses; yet it is very little known, and very far from being generally sought after. This is the case within the hundred of Grimshoe; what peat is dug, is merely for domestic use; the general fuel of the country is flag, or surface turf, pared off the fens: its component parts are the roots of herbage, common earth, which will not burn, and some peat. The ashes from this fuel, are daily deposited in proper places, distant from the habitations of the poor, and carefully quenched with water, to prevent conflagration; hence arise heaps of this compound of dirt and peat-ash, moistened by daily watering, and an exposure to the air and rain, and snow of winter; and yet our farmers, with the manure of this compound, get good turnips, and find it beneficial in their wheat crops.

How much more efficacious would be the ashes of fine unadulterated peat, prepared and preserved from the action of the
air,

air, and deposited in houses erected for the purpose, in the Berkshire manner.

Mr. Kent observes, "those who live in the neighbourhood of Newbury, are sensible of the inestimable value of this manure,

I am not enabled, by chemical experiments, to determine that the qualities of the Norfolk ashes would be similar to those of Berkshire, but, so far as I can judge from the external appearance of the peats and ashes of both counties, I am persuaded the Grimshoe farmer would also be sensible of the great value of this manure.

With all due deference, therefore, I suggest, that in the intended improved edition of Mr. Kent's general view, &c. mention may be made of this manure; and it may be enumerated among the natural advantages which this county possesses,

Lime, a manure in common use in the midland and northern counties, abounds in Norfolk, though it is seldom there applied to that purpose. Various and contradictory are the opinions which have been mentioned concerning the power and effects of it in agriculture—it has been commended as an excellent fertilizer, and condemned as a pernicious exhauster of land: I confess, I cannot think it would have been applied by the midland and northern farmers, for half a century, if general experience had not ascertained its utility.

In the parish where I reside, I find it universally condemned: Mr. F——, a capital farmer here, lost a crop of wheat by using it, ten years ago, and no one felt bold enough to make a second experiment. On investigating, lately, the particulars of this affair, I find Mr. F——, instead of preparing his fallow for the seed, by putting on the lime at a proper time before sowing, actually dressed the growing crop with
hot

hot caustick lime, at the latter end of the month of March, and the consequence was such as might be expected from such a process: I had the satisfaction to hear, from another quarter, that though the crop of that year was spoiled, it was supposed, by some people, that the land was the better for the lime for many years after.

Lime is sold, at the sale-kilns in this county, at an high price, 14s. per chaldron—and this presents a formidable obstacle to the general use of it in agriculture. Coals are dear, and the war has advanced the price of them—but chalk lime-stone abounds every where with us, and may be got on easy terms; so that, I am persuaded, notwithstanding the present price of coal, a farmer may burn his own lime at 9s. 6d. per chaldron: allowing even $3\frac{1}{2}$ chaldrons of lime to an acre, the cost of manure is only 1l. 12s. 9d. and the charges of carting it are infinitely less than those of carting dung sufficient for an acre of land, as are also loading and spreading.

Part of our lands are distant from the homesteads three miles—the expence of manuring these lands is immense; three journies in a day, is the work of four stout horses.—These horses would, in one day, draw lime sufficient to manure two acres of that land, which, if manured with dung, would require the work of four horses (at three journies per day, at only nine loads per acre) six days.

Chalk lime-stone is soft, why may it not be calcined with peat?

The brick-makers at Cley, who supply us here with that article for building, of a most excellent quality, use peat in burning them; perhaps, the heat may be so quick and intense, as to vitrify the lime-stone; perhaps, the alkaline salt, which the peat contains, may promote that vitrification.

But,

But, perhaps, these evils may not happen, or may be prevented by proper expedients, viz. burning the lime in an open kiln, and not in a reverberatory one, hence the draught or current of air would be very weak, and we know vitrification is the effect only of the higher degrees of heat: the fire may be made jointly of coal and peat.

If peat can be used in burning lime, an incorporation of peat-ashes with the lime, might improve the manure.

To convince my parishioners, that lime is a very valuable manure, I made the fair comparative experiment hereafter mentioned:—Between two lands, manured with yard dung, I manured an intermediate one, with lime, for turnips—the ploughings and culture, as well as the quality, of the three lands were similar. The turnips have all had the first hoeing, but such is the superiority of the crop, on the limed land, that every person, who hath viewed them, is convinced, that lime, though it destroyed wheat, would not kill turnips.—I impute the superiority of the turnip crop, to the novelty, if I may so call it, of the manure.

May not somewhat be said in the intended publication, to remind the men of Norfolk, that abundance of lime-stone is another of the natural advantages which this county possesses.

Ploughing is certainly done, as Mr. Kent observes, with greater ease, in this county, than any other, and much cheaper.

I conceive an improvement may be made in the culture of the light lands of the hundreds of Shropham, Giltcross, Weyland, South Greenhoe, and Grimshoe, by introducing the use of the new Scuffler, recommended by the Agricultural Society of Leicestershire.—This instrument is designed for stirring arable light lands, which have been previously broken up by the plough.

I saw

I saw one of these scufflers (constructed by the ingenious Mr. Hanford, of Huthen, near Loughborough,) at work in a field, the soil a sandy loam, worth 11s. per acre; it was drawn by three horses, of no greater strength or value than our Norfolk Fen-jades, and effectually stirred five acres in a day.

N. B. *The other remarks of Dr. Hinton are taken notice of, in this revised edition, in their proper places.*



A useful Hint from Mr. Wagstaff, respecting the raising of New Fences.

DATED NORWICH, NOVEMBER, 1794.

IN the inclosing of a new farm, I shall take the liberty of suggesting what I have experienced practical: viz.—That fences may be strengthened, while that additional strength may become subservient to what (in some situations) may more than pay the rental of the land they inclose. Crab, white and black-thorn, are generally allowed to form the most complete fences; the first, it is well known, may be successfully engrafted with every species of apples; the second, though not so well known, may be successfully, and more fruitfully, engrafted with every species of pears; the third, especially if the layer or quick is raised from plumb-stones, become susceptible of every species of that fruit: hence, whether either of those wildings be ranked together, or commixt, each species, at due intervals, may be engrafted or budded with its congenial fruit; and while the engrafted or inocu-

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lated bole rises to a standard tree, their intervals may be clipt, and, in course, strengthened as a fence. It may be requisite to observe, that no stock receives and nourishes with more admirable facility its graft, than the white-thorn, the scion or bud of the pear; but, in consequence of the engraftment being four or more feet from the ground, the scion soon becomes larger in diameter than the stock, but this circumstance I have made subservient to their bearing, by leading their very vigorous shoots to stakes or standard trees, where affixed, they acquire the form and fruitfulness of an espalier, which being raised two or three feet above the quick, are out of the reach of the bite of cattle, and form a complete barrier against their leaping over, or breaking through: with equal ease they may ascend into sturdy standards, by being engrafted within an inch or two of the bank. It may be needless to add, that the first mentioned genus of fruit trees may thus be promoted to a manufactory of cyder and perry; and from small farms in the vicinity of towns, or in easy communication with the metropolis, supply their alimential produce for immediate consumption, perhaps, in some favourable years, to the amount, in value, of the other produce of single or two-fold acres they inclose.

I wish to avoid repetition, but I am persuaded of the practicability of this scheme of inclosure, and farther, that the wild and bird cherry (*Prunus Padus*) are severally susceptible of every species of cherries: these various stocks, thus ameliorated, would be beautiful in object, substantial in value, and be of provincial benefit wherever adopted.

ON THE

Uses and Value of the Spanish Chesnut.

LETTER FROM MR. KENT, TO THE PRESIDENT OF THE
SOCIETY OF ARTS, MANUFACTURES, AND COM-
MERCE, DATED 16th JAN. 1792.

SINCE I have had the honour of becoming a member of the Society for the Encouragement of Arts, Manufactures, and Commerce, I have read with great satisfaction Mr. Majendie's judicious remarks upon the Spanish chesnut, in the ninth volume of their Transactions, page 17, and observation and experience have long convinced me, that it is the most profitable tree that can be planted. Although the character which he gives of it, has in a great measure anticipated what I had to say in its favour, still I am persuaded a few more particulars relative to it, will not be considered impertinent or ill-timed, though it may in some instances carry the appearance of repetition.

I entirely agree with Mr. Majendie, that, for hop-poles and stakes, it has no equal, in point of durability, and consequently no underwood can be applied to those purposes with equal profit. He seems to think, indeed, that it is not so quick in its growth as ash; upon a moist soil, I think it is not, but upon a sand or loam, I apprehend it will keep full pace with the ash, and attain sufficient size for hop-poles in fourteen years, and be worth at that age two guineas a hundred, and last, with proper care, twenty years; whilst ash, which seldom comes to sufficient size in less than twenty years, will only bear two-thirds of the price, and decay in half the time.

For gates and hurdles it is equally good, and being less heavy than oak, is another great recommendation to it, as it is removed from one place to another with greater ease. To these and many other purposes, chestnut, trained and cut as underwood, is peculiarly adapted; and, in point of beauty, no wood surpasses it, as it admits of close planting, runs strait in its branches, and always appears florid and healthy.

I shall next consider the value of the Spanish chestnut for timber, in which (except for the unrivalled purposes of ship-building) it will be found for most uses equal to the oak, and in buildings and out-door work much superior.

In 1676, an ancestor of the present Mr. Windham, of Felbrigg, in Norfolk, had the merit of being a considerable planter of chestnut. In the space of fifty years, it is presumed these plantations required thinning, as his successor, about that time, began to apply this timber to useful purposes upon his estate.

The first account is of the branch or limb of a chestnut, about thirteen inches square, which, in the year 1726, was put down as a hanging post for a gate, and carried the gate, without alteration, fifty-two years, when, upon altering the inclosures of the farm where it stood, it was taken up, under my direction, and appearing to be perfectly sound, was put down for a clapping-post in another place.

In 1743, a large barn was built with some of this timber, and is now as sound in every part, beams, principals, and spars, as when first the barn was built: about the same time, several chestnut posts and rails were put down, which I have since seen removed, and after standing thirty or forty years, generally appeared so sound, as to admit of being set up in some other place,

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The last instance I shall mention, though not of long date, will shew the great superiority of this timber over oak in fences. In the year 1772, the present Mr. Windham made a large plantation in his park, which was fenced with posts and rails, converted from young oaks and chefnuts of the same age and scantling, such as were picked out of a place where they stood too thick. Last year, upon Mr. Windham's enlarging his plantation, it was necessary to remove this fence—when the chefnut posts were found as sound as when they were first put down, but the oak were so much wasted, just below the surface of the ground, that they could not be used for the same purposes again, without the assistance of a spur to support them.

To these modern proofs of the utility and durability, we may join the authority of Evelyn, an author of established reputation, who asserts, it is good for “mill-timber and water-work, and that great part of our ancient houses in the city of London were built with it, and that it does well for table and other furniture.”

As a candid quoter of Evelyn, however, I admit that he says, in another place, that he “cannot celebrate this tree for its sincerity, it being found (contrary to oak) it will make a fair shew outwardly, when it is all decayed and rotten within; but that this is in some sort recompensed, for the beams have the property of being somewhat brittle, of crackling, and giving warning of danger.”

To account for this drawback in Mr. Evelyn's opinion, it will be proper to observe, that this certainly is the case with old chefnut, that has been suffered to stand beyond the time of its attaining its full growth; it is then the worst of all timber, being more brittle and more apt to crack, and fly into splinters than any other: but I have never known this to be the case with young chefnut, and therefore in point of œconomy,

nomy, it should never be suffered to stand longer than the points of the branches, and the complexion of the bark, indicate it to be in a growing or healthy state, which is not very difficult to ascertain, by a person accustomed to make observations upon timber; and it is this very circumstance, when properly attended to, that makes this timber more profitable than most others; for it is so early useful, that if it be cut when it squares only six inches, it will be as durable as an oak of six times its size and age. This is in a great measure accounted for, by its having so little sap in proportion to other trees, as it will seldom exceed in thickness the breadth of the bark; whereas the sap of an oak will often be from an inch to two inches thick, which is not only useless, but if suffered to remain, tends very much to the destruction of the timber: in other respects, the duration of the chesnut may be accounted for, from its being less affected by worms or insects than other timber; otherwise it would be impossible that such roofs as King's college, Cambridge, built in the reign of Henry VI. with chesnut, and many other equally ancient buildings, should have lasted so long, and be still in such a perfect state as many of them are.

Therefore, like Mr. Majendie, I earnestly wish to see the culture of this most valuable plant, extended over every part of the kingdom, as it must prove highly beneficial to the public.

But let no one be afraid of cutting it too young; for, let this tree be ever so small, if it is large enough for the purpose for which it is wanted, it will be the less liable to decay from its youth; and, if underwood be the object, the proverb, in beech countries, will be fully verified, "Cut wood and have wood."

Substance of the Contracts which subsist between Thomas William Coke, Esq. and his Tenants.

The Landlord,

AFTER a proper description of the parcels, demises, for the term of twenty-one years, at a fair stipulated rent, which is reserved to be paid half-yearly, out of which land-tax is deducted—all other reservations and restrictions are contained under the

TENANT'S OBLIGATION;

Which are as follow:—That he will not assign, transfer, set over, or part his interest in the estate, to any person, except to his wife, child or children, without the licence of his landlord, first obtained in writing, under penalty of forfeiting his remaining term.—He will not lop, top, or prune any maiden tree, or cut down any young sapling, like to become timber, under penalty of paying three times the value of such timber-tree or sapling so lopped, topped, pruned, or cut down.—That he will not break up or convert into arable, any old meadow or pasture land, without licence so to do, under penalty of five pounds an acre additional yearly rent, to be paid from the time of such breaking up to the end of the term; and double that penalty for the last year.—That he will, during the whole of the term, endeavour as much as possible to adhere and conform to the course of cropping all his arable land, under six shifts, or equal portions, of which one shift shall be in turnips, or vetches fed off with sheep; two other shifts in grass seeds (which shall not be broken up till the

the same have lain two years); one other shift in wheat, and the remaining two shifts with lent grain.—But in case it shall so happen that the grafs seeds shall at any time fail, so as to render it reasonable to break up any particular piece of land, after it has been in grafs only one year, then he shall be permitted to break up such piece of land after one year's lay, taking only one crop of corn or grain after such one year's lay, and then summer-tilling the same for turnips, and so bringing it round again as soon as possible under the regular course of six shifts before stipulated.—That he will in the last year of the term leave one full sixth part of all the arable land hereby demised in grafs seeds of one year's lay; one other sixth part in two year's lay; one other sixth part in turnips, sown upon a fourth earth, well mucked and twice hoed.—That he will expend and consume all his hay, straw, and stover, upon some part of the premises during the whole of the term, and lay and spread all the muck, dung, and compost arising therefrom upon such parts of the land as is most proper to bestow the same upon.—And that he will imbarn and stack all his last year's crop of corn or hay upon the premises in the last year of the term, and leave the dung arising from the last crop but one properly turned up in heaps, in the yards or some other suitable part of the premises, on or before Midsummer day in the last year of the term.—That he will keep all his hedges, ditches, mounds, and fences in good order and condition during the whole of the term; and new make or repair one-twelfth part of the whole every year; and at the time of such making or repairing the same, will lop such pollards as have been usually lopped close to their heads, and cut down all the bushes, thorns, and stemwood, close to the stools on which they grow, and effectually scour and cleanse the ditches belonging to the same, and also permit and suffer any trees to be planted in or near the same which the said Thomas William Coke may think proper to plant, and do all in his power to protect the same.—That he will carry all materials for repairs, pay all
carpenters',

carpenters', bricklayers', and other artificers' wages, find allowance beer, nails and gate irons, straw for thatching and clay for daubing, and likewise keep gates, stiles, rails, locks, bars, and bolts in good repair, being allowed timber in the rough, bricks, tiles, lime, and hair, for doing the same.—That he will at any time during the term hereby demised agree and submit to any exchange of land that may be proposed, having other land of equal quantity or value laid to him in lieu of what he may be required to give up.—That he will permit and suffer the succeeding tenant to sow any grass seeds he may choose upon such part of his land as he may sow with lent grain in the last year of the term, and that he will sufficiently harrow in the same gratis.

LASTLY it is agreed, for the mutual convenience of both parties, that the hay and turnips which shall be left upon the premises at the expiration of the term, shall then be valued by two impartial persons competent to value the same; and if they cannot agree in such valuation, they shall have power to call in and appoint any third person they may choose as an umpire, to settle the difference between them; and the value so settled shall be paid by the in-coming to the out-going tenant.—That the out-going tenant shall be suffered to retain the use of the barns and stack yard till the first of May next after the expiration of the term, for the purpose of superintending the threshing out and dressing his last year's crop of corn.—That the in-coming tenant shall have liberty to enter upon the yards, part of the stables, and upon the sixth part of arable land, being the second year's lay, at Midsummer previous to the expiration of the term, for the purpose of carrying out the muck and making the summer fallows for an ensuing wheat crop.—That the in-coming tenant shall be entitled to the straw, chaff, and colder, arising from the last year's crop of corn; but shall be at the expence of threshing out the said corn, and carrying it to the usual markets, for and in lieu of the said straw, chaff, and colder.

FATTING SCOTCH CATTLE.

A comparative Statement of the Process, Expence and Profit attending three different Kinds of Scotch Cattle, grazed in Norfolk, particularly the Galloway Scot, for which I am indebted to Mr. Burton, of Hempnall.

OF the Scotch cattle, there are three sorts which require consideration. The first is a bullock bought at St. Faith's for about 9l. turned of four years old, in such condition as is fit to be put immediately to turnips—this bullock is supposed to be brought to from fifty to fifty-two stone. He is put to turnips for about twenty-four weeks, the average expence of which, including turnips, carriage and attendance, and in case of bad weather, when a little hay is usually given, besides the straw, cannot be reckoned less than 4s. per week, this brings him to 13l. 16s. and such a bullock generally will fetch about 5s. 6d. per stone of 14 lbs. which amounts to 14l. 16s.

The second bullock is bought quite lean, about the same time as the former, for about 6l. and is a year younger than the former. He is first put into stubble or ordinary grass till the straw yard is open, and then he is put to straw at night, and eats the offal turnips after the better beast in the day-time—his keep in this way, twenty-four weeks, till May-day, may be set at 1s. 6d. per week; he should then be put to marsh or into good pasture till a fortnight after Michaelmas, which, say twenty-eight weeks, at 2s. 3d. per week, is 3l. 3s.; he then goes to turnips, like the former bullock, for eight weeks, at 3s. which is 1l. 4s.; his aggregate charge is then 12l. 3s.—his weight may be expected to be forty-four stone, and value 12l. 2s.

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The third, supposed to be bought at Harleston in December, a lean beast of the same age as the first, price 7*l*. He goes immediately to straw and offal turnips for about eight weeks, at 1*s*. 6*d*. which is 12*s*.; then he goes to full keeping at turnips by day, and lies in the straw yards at night, about ten weeks, at 2*s*. 6*d*. which is 1*l*. 5*s*.; he is then put into the second year's lay or good pasture till harvest, about twenty weeks, at 3*s*. per week, which is 3*l*.; this brings him to 11*l*. 17*s*.—he will then generally be about forty-six stone, at 5*s*. 6*d*. which will amount to 12*l*. 13*s*.

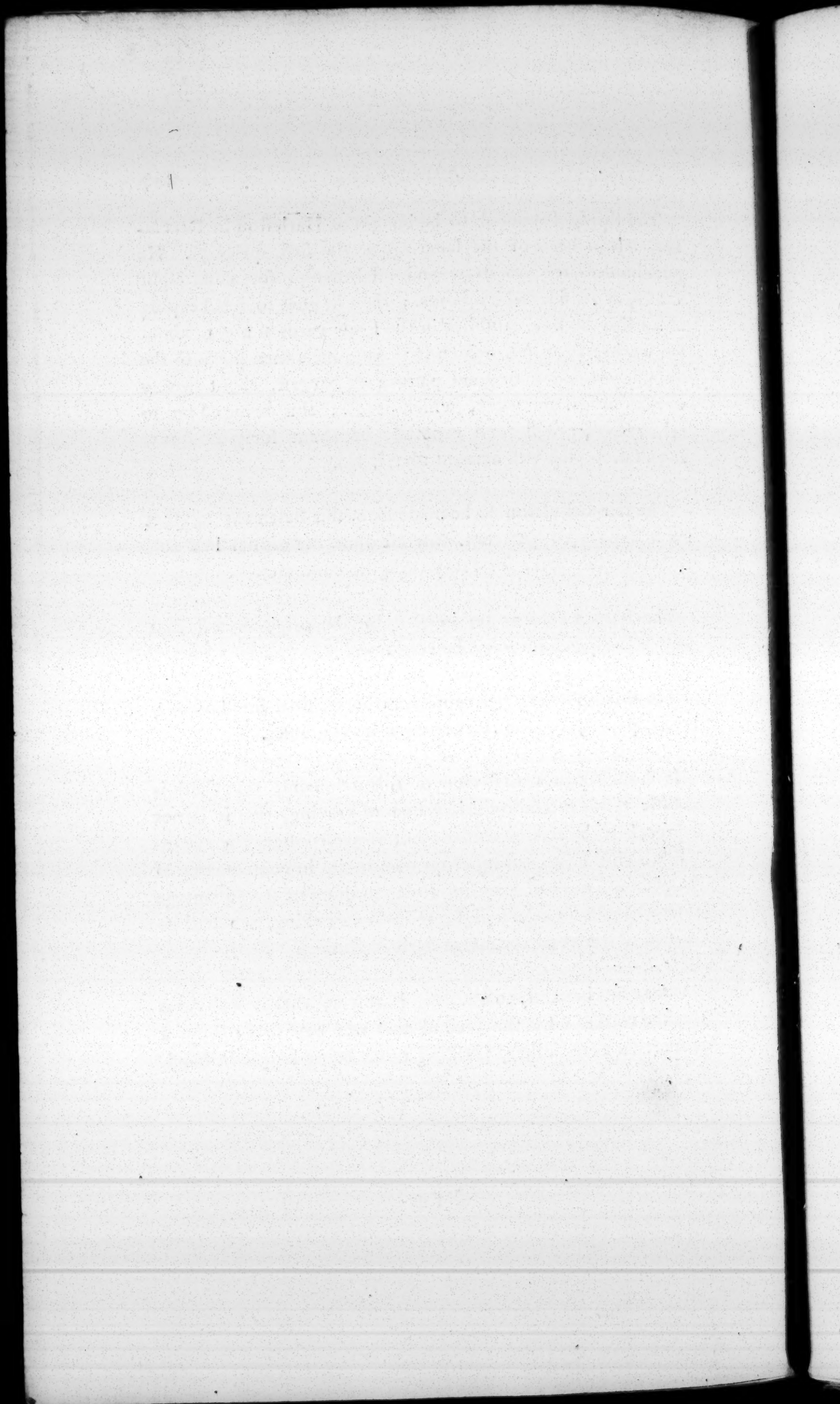
The fair deduction to be made from this statement is, that the first pays 10 per cent. interest upon the capital laid out, and also a fair price for every thing he consumes.

The second returns no interest for the original cost, but pays a fair price for what he consumes.

The third pays 15 per cent. for the original sum laid out, besides paying like the rest for what he consumes.

It should seem at first view of this statement, that there is so little profit attending this system of grazing, that it is not a process to be recommended; but if we consider the advantage which the succeeding crops owe to it, in consequence of the great quantity of manure, to say nothing of the advantage of treading, which on a light soil is a vast thing, we shall be satisfied of the great advantage derived from it.

It may not be amiss to observe, however, that it is obvious that the reason why the second does not pay in so large a proportion as the other, is owing to his being longer in hand.



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ERRATA.

In p. 162, l. 6, for "*seventy*" read *seven*.

p. 164, l. 1, for "*18d. per head*" read *18d. each person per week*.

p. 207, l. 19, for "*acruce*" read *accrue*.

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